FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

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Broad Changes in Organization Made By Nutrena Mills

MINNEAPOLIS — A broad reorganization of the management and operating structure of Nutrena Mills has been announced by James C. North, president of Nutrena, a subsidiary of Cargill, Inc., Minneapolis.

"We literally outgrew our previous, rather simple, organization plan, and are making the changes necessary for better customer service and greater growth," said Mr. North, who had announced earlier that the company set new all-time high sales figures in 1958.

Chief features of the new plan, which is effective immediately, Mr. North said, are decentralization and increased administrative efficiency. Changes include a new administrative department under the supervision of vice president David R. Ross, and establishment of four regional offices.

Mr. North said a northern regional office will be established at Minneapolis with vice president J. D. Armstrong as manager; a southwestern regional office at Kansas City with vice president Robert S. Greenlee as manager; a central regional office at Peoria, Ill., with Vern C. Dean as manager, and a southeastern regional office at Memphis, Tenn., with C. Turner Whitworth as manager.

"Under the new setup," Mr. North said, "much of the operational plan-

(Turn to NUTRENA, page 6)

Soybean Oil Meal Shows Advances

Soybean oil meal advanced sharply during the past week following a reported production cutback in the crushing industry. Unrestricted meal, selling at $52.50 bulk, Decatur, March 20 had moved up to $56 on March 27. Scattered April was $57 and May was $58.50 by the end of the week, processors said.

The cutback followed a crush of 36.7 million bushels in January and almost 34 million in February. March also started out with heavy production. One processor said production during February and early March was about 20% ahead of a year earlier, while the feed business, after a strong winter, dropped back to a pace

(Turn to SOYBEAN, page 123)

Better Marketing Cited As Broiler Price Cure

By MARTIN E. NEWELL
Feedstuffs Staff

DALLAS, TEXAS—Increased consumption was put forward as the only practical answer to the price woes of the broiler industry at the first national conference in Dallas March 20-21. The National Broiler Council, sponsor of the conference, announced plans for greater merchandising efforts to make chicken more of an everyday item on the home table.

"We can no longer profitably use price pressures to force consumption up to balance the industry's rising level of production," President Joseph Fechtel said in outlining the need for the enlarged sales effort.

As a measure of the cost of this type of merchandising, Mr. Fechtel pointed out that the average farm price for broilers in 1958 was 10¢ lb. less than in 1952, while consumption doubled in that period. "We find," he said, "that $510 million were used as an incentive to induce people to consume twice the amount of chicken in 1958 as we produced in 1952." Stated another way, "as an industry we paid about 20¢ for each additional pound of chicken consumed over the 1952 level. The cost of using price to promote sales has been high indeed."

The NBC board of directors, meeting in connection with the conference, called for "immediate conferences" between industry leaders and the "highest leadership" in the food retailing industry, both chain and independent, to bring to their attention pricing and merchandising policies which are penalizing the industry. It was noted that if no results were obtained through this avenue, then "this industry must take immediate action through other avenues to remedy these practices."

The board urged each industry member to view with caution current production levels, and to make such adjustments as they deemed to be sound in their own businesses. They also outlined a program for a "powerful, long-range" promotional effort

(Turn to BROILER, page 7)

USDA Says Producers' Intentions Point To Larger Laying Flock for Next Season

WASHINGTON—It isn't clear at present whether producers will carry out their intentions, but if they do, the U.S. Department of Agriculture reports, next season's laying flock will be larger.

Monthly egg production throughout 1959 is likely to exceed 1958, USDA also noted, even if hatchings this spring are reduced as much as 5% from last spring. And, if hatchings are up to intentions, this year's egg prices will likely be below 1958.

As the spring hatching season gets under way, producers' intentions indicate an increase in the 1959-60 laying flock over that of 1958-59. The indicated slight cut in numbers of chicks to be be bought is offset by the higher proportion to be bought as pullets, USDA says.

The flock of potential layers is now larger than a year ago because of the heavy "out-of-season" hatch in the last five months of 1958.

There are figures to indicate that so far growers are buying fewer chicks than they originally intended. Hatchings in February were 3% below last year and eggs in incubators March 1 were 2% below 1958. USDA says January-June replacement chick hatchings would have to be reduced about 5% from last year to avert an increase in the size of the 1959-60 laying flock.

USDA believes producers may adjust their production plans as a consequence of the intentions survey.

Increased egg production is expect-

(Turn to LAYERS, page 6)

Unidentified Factor Research Outlined at Feed Conference

By DON E. ROGERS
Feedstuffs Staff

CINCINNATI — New information on unidentified factors was outlined for more than 300 industry and college men on hand for the 14th annual Distillers Feed Conference March 25 at the Sheraton-Gibson Hotel in Cincinnati.

Researchers described recent findings in their work on unidentified growth factors in distillers feeds. In addition, the audience was told of work indicating that some fats possess unidentified properties which stimulate chick growth and increase egg weight.

Other features of the busy one-day program, sponsored by the Distillers Feed Research Council, included talks on such subjects as pelleted feeds for ruminants, swine nutrition trends, the requirement of poultry for zinc, milk replacers for veal calves, additives in cattle feeding and industry service.

Presenting papers on the various subjects were prominent college and industry scientists.

Dr. C. S. Boruff, Hiram Walker & Sons, Inc., retiring president of the DFRC, told the conference audience that the presence of the unidentified grain fermentation factors in distillers feeds has aroused the imagination of scientists. "In the past we have always heard reports about these unique substances, and again this year new information is being presented," he said.

Dr. Boruff predicted that produc-

(Turn to CONFERENCE, page 123)

FEEDSTUFFS *Features This Week*

PELLETING: Authority tells why he believes pelleted rations for sheep and beef cattle are "here to stay" in article on **page 40.**

NUTRITION: A review of dairy calf feeding research starts on **page 58.**

ADJUSTMENT: How an Indiana firm meets loss of broiler feed business with move to expand hog feed demand is told on **page 78.**

PRODUCTION: Operation of a new plant which turns out poultry feed on bulk-batch basis is described on **page 86.**

DISTRIBUTION: A New York firm's experiences with branch operations are described on **page 112.**

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Management Talk To Keynote AFMA Annual Convention

CHICAGO — John M. Fox, president, Minute Maid Corp., Orlando, Fla., will keynote the 51st annual convention of the American Feed Manufacturers Assn. May 11-13 in Chicago. Mr. Fox will address the feed men at the opening session, May 12, on the topic, "What It Takes to Be a Manager." His six-point talk listing creative ability, judgment, administrative skill, positive attitude, courage and character as keys to management success, will establish a theme for two days of concentrated attention by AFMA delegates upon problems of operating feed companies, according to an AFMA announcement.

Mr. Fox is a pioneer in the frozen concentrate industry. In the past 14 years, his firm has grown in sales volume to an annual rate of $100 million. Mr. Fox has been active in the National Sales Executives organization and serves on its board of directors.

Other new program developments in the feed industry's annual convention include: Recognition ceremonies for Leslie E. Bopst, past secretary of the Association of American Feed

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TIME-ly Story

NO DOUBT MANY FEED MEN read with more than a little interest the recent (March 9) cover story in Time magazine on automation in agriculture. Those who haven't read it would do well to drop around to the barber shop or dentist's office and have a look.

The article, woven around the life story of a progressive Indiana feeder, "comfortably a millionaire," tells more about the progress that has been made in agriculture in recent years than any report we have seen in a consumer publication.

Readers certainly must have been impressed with descriptions of modern-day feeding such as this: "Like a rumble of surf came the hungry bellowing of 400 white-faced Herefords and the grunting of 500 Hampshire hogs, waiting at row on row of troughs to be fed. In the barn, North stepped up to an instrument panel as intricate as a ship's, began pushing buttons and pulling switches. All around, the barn came to vibrant life. From one silo dropped ground corn, from another silage, from a third shelled corn.

"By pushing other buttons, Farmer North shot in supplementary vitamins, mineral and hormone nutrients. Then he cut in the big noisemaker. In a channel in front of the silos a snakelike auger began to turn. As it writhed, it propelled the feed up a steep incline and sent it tumbling out through a conduit that passed directly over 330 ft. of feed troughs. At regular intervals, trap doors automatically distributed the individual animal's feed. . . .

"Ten minutes later, Farmer North was through with a job that would have taken five men half a day working with buckets and pitchforks."

FROM THIS POINT, in Time's typically skillful style, the article moves into a report of the many developments which have so drastically changed life and production "down on the farm." Appropriately, it also slanted into some observations on the government's farm program: "Last year [farm production] jumped 8%, as much as the increase for the decade 1920-30. This technological fact, ignored by the politicians, is what has made the farm support program such a failure and scandal."

Linked closely with the many new farming methods described are a number of company names which may be readily recognized by feed industry readers. Also, some individuals' names mentioned are well known in the industry, such as Jesse Jewell of Georgia, Bill Farr of Colorado and Professor Frederick Andrews of Purdue.

What factors have contributed to the "pushbutton cornucopia," as described by Time? They include these: Hybrid corn, fertilizers, automation and mechanization, improved breeding, antibiotics, vitamin B_{12}, hormones, new types of silos and tranquilizers.

Most feed men would find little to quarrel with in this list, or with the clear implication that innovation-minded men have been necessary to make discoveries and then put them to practical use. The list, of course, could be much longer, but even as thorough a reporting organization as Time employs has to face the reality of space limitations.

IN REFERRING TO SOME OF THE feed additives, Time certainly indicated to its readers that new ideas in feeding are a part of the changing farm picture. The description of Mr. North's feeding operation, quoted above, also calls attention to this fact.

However, we wish that Time could have in some way given greater recognition to the contributions made by the formula feed industry as the key link between the laboratory and the farm. The feed industry often has been instrumental in getting farmers to accept new additives, when they have proved their worth, and new management methods, as well.

More importantly, perhaps, the feed industry, through its own research efforts and close coordination with college and other scientists, has motivated farmers toward more economical feeding in other ways. It has constantly searched for, and put into its formulas, the best obtainable knowledge of balanced basic nutrition, and it has tailored its products to specific needs of different species of animals of different ages. These achievements have been

(Turn to EDITORIAL—TIME-LY STORY, page 119)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Feed demand, while still spotty in many areas, showed a general improvement over most of the nation during the past week. An improved starter movement was noted and feed demand generally was good. The falling egg market, however, was said to have canceled chick orders in some areas, and egg producers are not encouraged pricewise to feed their flocks well. It is believed that other feeds will continue to show improvement as a result of some price increases which occurred this week. Dealers and feeders are expected to buy more heavily than the hand-to-mouth purchasing which has been seen through February and most of this month. The index of wholesale feedstuff prices was 86.4 March 25, which compares with 83.6 a year earlier. The feed grain index was 66.2, compared with 65.7 a week earlier and 64.8 a year earlier. (Ingredient prices in detail on pages 120-122.)

Northwest

Feed business was a little stronger this week as starter feeds became a significant part of weekly demand for the first time this spring. Chick starters are now reported to be in fairly good early demand, and turkey starter business is awakening.

Dairy, swine and cattle feeds all are moving "quite well," feed mill representatives reported. Concern was still expressed over the feeding ratios, particularly in view of the dropping egg market and low prices for broiler turkeys. Stronger soybean meal and millfeeds markets moved the prices upward for next week.

Several mills operated only four days this week because of Good Friday.

Representatives expressed some surprise at the soybean meal crush during February. Meal production of 800,000 tons was about a 27% increase over the previous February.

"When you can find a home for production like that," one representative said, "the feed business can't be too bad."

Southwest

The tone to the formula feed business in the Southwest is about the same this week as last—fairly good but not rushing. Orders seem to be coming in spurts; business will be great for a day or two, leading mills to believe the spring rush has started, but then will slack off to a snail's pace. Mill running time will range from 4 to 5 days this week. Good Friday is a holiday for some mills, and several mills will run only one shift that day, partly because it is Good Friday and partly because their business can be handled without running any more this week. Backlogs going into next week will range from very slim to a couple days.

Starter feeds are in good demand, with pig starter in the lead. Chick starter has not become a big factor, yet, and there is some concern being expressed that it will not. A declining egg market and the late spring have prompted cancellations of chick orders in some instances. Turkey feeds are moving in a trickle.

Cattle feeds are in surprisingly good demand, partly because of the late spring and the substantial numbers in this area. Several mills are shipping the last of previously booked feed. Swine growing feeds are moving well and laying and hatching rations are also doing quite well for certain mills.

Mentioned as a possible factor holding back business for individual mills, particularly those who do a big truck volume, is the lack of trucks caused by a big fertilizer movement this time of year.

Ingredient prices have strengthened and, unless there is too fast a run-up, this should result in feeders and dealers maintaining larger inventories than they have on a declining market. Prices for next week are expected to be up 50¢ to $2, the main strength coming from corn, protein and millfeed.

Northeast

There was some improvement in formula feed sales, and manufacturers stepped up their running time to meet the increased demand.

Mills are still getting a nice run on dairy feeds but it will probably begin to taper off by the end of April. Egg mashes continued to do well and starter feeds are improving. Broiler feeds held steady at recent levels.

Some ingredient prices worked higher but a trade spokesman said he doesn't think the higher levels will hold because of the weakness of end products.

The return on milk has not improved and prices are likely to go lower. Eggs also are giving ground. Broilers, however, held steady.

Corn continued to move in the export market and prices advanced ½ to 1¢. Oats also gained 1¢ but feed wheat gave up 1¢. Barley held unchanged.

Animal tallow was strong and added ⅛¢ lb. to its recent rebound.

Soybean oil meal (44%) advanced $1.50 to $2.50 and 50% soy made a similar gain. Linseed oil meal rose $1. Gluten meal and cottonseed oil meal held unchanged.

Meat scraps continued to decline and were off $1.50. Fish meal held steady.

Alfalfa meal declined $1 and hominy feed was off 50¢. Brewers' grains and distillers' grains held about unchanged.

Millfeeds moved higher on good demand from the country trade.

Running time of formula feed manufacturers rose to 40 hours, and in some cases more, from 36 hours in the previous week. Part of the increased running time resulted from preparation for the traditional Easter Monday holiday.

Southeast

The broiler feed business is practically unchanged from a week ago. Some of the smaller feed mills which are having to finance the growers are reducing their chick placements and cutting back on their feed operations as they cannot afford to take the loss in the broiler market. North Georgia broiler prices dropped 1¢ per pound this week to 16¢ f.o.b. the farms, making the sale price slightly under the cost of raising broilers.

Dairy and cattle feed business continues on the slow side. Although there are heavy supplies of corn at the Guntersville, Ala., and Chattanooga, Tenn., terminals, prices advance 1¢ bu. This is attributed to the strength shown on the Chicago board.

Heavy buying interest from the West has resulted in cottonseed meal and soybean meal prices increasing

(Turn to MARKETS, page 125)

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Over 500 Hear Industry Talks At Oregon Group's Convention

PORTLAND, ORE.—More than 500 members and guests of the Oregon Feed & Seed Dealers Assn. learned of new developments and possible solutions to problems in their industry at the association's recent convention here.

Fenn Emerson, Chas. H. Lilly Co., Albany, was elected president for the 1959-60 term. He succeeds Harold Davis, Buchanan-Cellers Grain Co., McMinnville. New vice president is Alec Runciman, Webfoot Fertilizer Co., Portland, and Jim McDowell, McDowell Bag Co., Portland, was named secretary-treasurer.

The board of governors reappointed Russ Hays association manager. New members of the board of governors are: Robert Seufert, White Star Concentrates, Portland; Randall Cook, Leo Cook Co., Portland; Glen Fravel, Jenks-White Seed Co., Salem; Don Hodge, Crabtree Feed Co., Eugene, and Darryl Woodland, General Mills, Inc., Portland.

Holdover board members are: William Barnes, Centennial Mills, Portland; Floyd Roberts, Jr., Cargill, Inc., Portland; Bob Holland, Holland Feed Store, Beaverton; Rudy Smith, Tualatin Valley Cooperative, Hillsboro; Myrle Thompson, Thompson Flouring Mills, Shedd; Frank Parsons, Standard Feed, Klamath Falls, and Ralph Guynes, Beatie and Guynes, Oregon City.

In other action, the board approved the dates of March 17-18, 1960, for the annual convention at the new Portland Sheraton Hotel.

Stacy Gange, vice president, Pacific Olive Co., Visalia, Cal., stressed the importance of the industry keeping abreast of the new problems it faces because of the continued march of new people to the Western states.

"The problems of education, transportation, water and taxes are very large, but I am glad they are, because we never solve problems until they get big enough to interest the right people. Now all business men realize that all must give of their very best in time, energy and money so that the next years will not only be busy, but could be those years for which all the firsts have been made," he stated.

The two-day convention program opened with a session on fertilizers. Herb West, Inland Waterways Assn., brought the delegates abreast of current expansion on barge facilities of the Columbia River, water movement of grain and fertilizer materials and development in the fertilizer industry brought about by hydroelectric power.

Performance Measuring

William S. Jackson, west coast assistant manager, Grayselle division, E. I. du Pont de Nemours & Co., San Francisco, emphasized the importance of business men being constantly aware of margins and costs.

The performance measuring system, he said, is proving practical in appraising volume sales directly to profit. He said his company had discontinued entirely some very familiar name products because they were not returning a profit in proportion to capital investment. Mr. Jackson commented that research and development of new products have been more profitable in proportion to investment.

Ed Vranizan, Merrill Lynch, Pierce, Fenner & Smith, Portland, explained the function of commodity futures exchanges and stock exchanges as they apply to the grain and feed industry. Other speakers were Mark Hatfield, Oregon's governor; Frank McKennon, Oregon state director of agriculture, and William Bade, Oregon tax expert.

California Feed Men Plan 35th Convention

SACRAMENTO, CAL.—The California Hay, Grain & Feed Dealers Assn. is accepting advance registrations and reservations for the 35th annual convention to be held at San Francisco's Fairmont Hotel April 23-25.

Scheduled for April 24 are the men's luncheon and president's cocktail party. The annual convention breakfast will be held April 25.

E. C. Hansen, W. H. Allen Co., San Francisco, is chairman of the annual golf tournament to be staged at the Olympic Country Club on April 23. Mr. Hansen's fellow committee members are R. J. (Dick) Smith and Gene Thomas.

Allen J. Gould, Wilbur-Ellis Co., San Francisco, is accepting entries for the association's bowling tournament to be held April 23. A north-south contest will feature the affair.

The ladies' luncheon and fashion show will be held April 23 at the Palace Hotel, and will be preceded by a one-hour tour of San Francisco. The ladies' continental breakfast will be served the following morning at the Fairmont.

Broker Dies

PORTLAND, ORE.—Richard Bollam, feed and mill equipment broker, died unexpectedly in Portland after a short illness. He became ill and was taken to the hospital for treatment. Cause of the death has not been determined. Mr. Bollam, age 56, was engaged in the sale of feed and milling supplies. He was well-known throughout the Willamette Valley.

NEW OFFICERS—The Oregon Feed & Seed Dealers Assn. elected these men as its officers at the group's recent convention. They are (from left): Alec Runciman, Webfoot Fertilizer Co., Portland, association vice president; Fenn Emerson, Chas. H. Lilly Co., Albany, president, and Jim McDowell, McDowell Bag Co., Portland, secretary-treasurer.

TROY COX HONORED—Troy Cox, vice president in charge of feed sales for Albers Milling Co., Los Angeles, is shown receiving a commemorative book from A. M. Ghormley, president of the Carnation Co., parent firm of Albers. The presentation was made recently after Mr. Cox retired from the milling firm.

Troy Cox Retires From Albers Milling

LOS ANGELES—Troy Cox, vice president in charge of feed sales for Albers Milling Co., Los Angeles, a division of the Carnation Co., has retired from the firm. Succeeding him is G. A. Ensminger.

G. A. Ensminger

Mr. Cox, an employee of Albers since 1916, joined the firm as a house-to-house cereal salesman. He is credited by the firm with pioneering much of the early research and sales development of many of the company's nationally distributed products. Among them are Calf Manna and Friskies dog food.

Mr. Ensminger joined the firm in 1946. He moved from salesman in the south San Joaquin Valley in central California to assistant branch manager at the Los Angeles mill. In 1949, he became a staff consultant to Mr. Cox, and three years later was named general sales manager and assistant vice president.

California Range Drouth Continues

SAN FRANCISCO — With some range feed in California already beyond redemption even if it did rain, generally dry and warm weather has continued.

Any brightening of range feed prospects remained dim this week as moisture of any significance failed to appear. Selling and contracting of spring lambs have been fairly active with packers intent on adequate supply of fat offerings. Producers in many instances were forced to sell because of poor grass.

Heads Nutrition

PORTLAND, ORE.—Don Mishler has been appointed head of the nutrition department of Oregon Egg Producers. Mr. Mishler, until recently, was in charge of the same department for Centennial Mills, Inc. Mr. Mishler now heads expanded operations in the field of nutrition for the cooperative. He is a graduate of Purdue University, from which he secured his doctorate.

$200,000 ELEVATOR FIRE

LOXA, ILL.—Damages of $200,000 were estimated as the result of a fire recently which destroyed the Rex & Dayrel Grain Co. elevator here. Also lost in the fire were 60,000 bu. of grain.

BROILER PRICES DOWN

FAYETTEVILLE, ARK. — Lower broiler prices were reported this week by the Federal-State Market News Service here. Only fair to slow demand, a weak market and prices 2¢ lower than a week earlier were noted in some of the principal broiler areas. Prices as of March 25 were: Arkansas, 15-16¢ lb., mostly 15¢; Georgia, 15-16¢; Delmarva, mostly 16-17¢; Texas, 16-17¢; Virginia, 15-17¢; Mississippi, mostly 15¢; Alabama, 15¢.

N.H. Poultry Group Will Meet April 1

DURHAM, N.H. — How contract egg production may drastically alter the operations of some New Hampshire poultrymen will be discussed at the New Hampshire Poultry Growers Assn. meeting in Durham April 1.

Prof. Ralph Baker, poultry marketing specialist at Pennsylvania State University, will review his recent study of contract production and marketing throughout the U.S.

Participating in a panel discussion of started pullets will be: Robert Thurrell, East Wolfeboro, N.H.; Dr. M. N. Frazier, extension veterinarian, University of Connecticut; Edward S. Walford, Hall Bros. Hatcheries, Wallingford, Conn.; William Phipps, Hubbard Farms, Inc., Walpole, and Harold Glover, Alton Parmenter and Ray Parmenter, Parmenter Reds, Inc., Franklin, Mass.

The program will also include a discussion of vaccination, coccidiosis and supplemental nutrition programs by Dr. J. L. Roundtree, veterinarian for Samuel Lipman & Sons, Augusta, Maine, and an address on "stimulighting" and lighting for layers by Prof. W. C. Skoglund, chairman of the University of New Hampshire department of poultry science. Charles Shelnut, Northampton, Mass., will talk about the objectives of the New England Egg Producers Assn.

Registration will begin at 9:30 a.m. in the Memorial Union.

Feed Plant to Close

AKRON, OHIO—The Quaker Oats Co., Chicago, which has been producing feed at Akron for many years, will stop production March 31 at its plant on the Ohio Canal in downtown Akron, the firm announced. The company, for some time, has been shifting feed production to a modern mill at Shiremanstown, Pa.

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"We're sold on Baciferm," says Dr. L. N. Gilmore, Director of Research, Maritime Milling Co., Inc., Buffalo, N.Y. "Our own field trials corroborate the various college test data submitted to us—only 4 grams of Baciferm's zinc bacitracin per ton does an outstanding job in stimulating growth. We're now using Baciferm in our low-level broiler feeds. And it's going into our high-level 'Stress-Aid' feeds, too, because we find we get better results with furazolidone and tetracycline in combination with Baciferm than we had previously. One other thing – we are impressed with the stability of the zinc form of bacitracin which we understand is an exclusive, patented feature of Baciferm. It's good storage insurance for us and assures that full value is delivered to our customers."

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BACIFERM HELPS MARITIME MAKE THE SALE!

Zinc Bacitracin Antibiotic Supplements

CSS to Request Toll Crushing Plan For CCC Flaxseed

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — The Commodity Stabilization Service will soon ask the Commodity Credit Corp. board to approve a recommendation for a toll crushing contract for CCC stocks of old crop flaxseed.

Toll crushing contracts have of recent date not been in good favor at USDA.

With more than 15 million bushels of flaxseed in CCC surplus and little if any available storage space in the Minneapolis CCC office area, it has been decided to enter a toll crush contract, take over the oil and make the meal available for account of the crushers.

USDA has hoped through its proffered re-seal proposal to farmers holding CCC loan defaulted flaxseed that it might be able to minimize the quantity of seed which will move into the CCC account this year. Trade sources believe such hopes are ill-founded, saying that past experience nas revealed the reluctance of farmers to hold seed on re-seal arrangements.

The toll crush decision has been made at the operating level of CSS, and now all that remains is a nod of the CCC board; it does not require any formal board action.

G.L.F. to Spend $200,000 at Buffalo For New Facilities

BUFFALO — The Cooperative G.L.F. Exchange has appropriated approximately $200,000 for new facilities in an expansion and modernization program here which, in part, said exchange officials, is the result of anticipated benefits from the St. Lawrence Seaway.

Officials said G.L.F. has awarded a contract for a new 20,000 sq. ft. warehouse costing more than $100,000 to the Hydro Construction Co., Buffalo. The warehouse is to be built north of the exchange's Ganson St. feed mill and will replace a 50-year-old warehouse in front of the mill.

Richard W. Smith, mills division manager, said there will be other new facilities in the program, including expanded molasses storage facilities. The latest expenditure will raise to well over $1 million the amount spent by G.L.F. for new facilities here in the last two years, he said.

G.L.F. plans to import molasses via the seaway in ocean-going vessels this year, according to Mr. Smith. The Ganson St. feed mill uses "many millions of gallons" of molasses annually, he said.

"We have no idea how many ships we'll bring in, but we intend to dredge out Buffalo River around our piers so that the big ships will be able to unload the molasses," Mr. Smith declared. "We're thinking of ship loads in excess of a million gallons at one time. We're expecting the seaway may well change G.L.F. feed distribution patterns. It is quite likely this will have a growing importance and mean possible further expansion of our Buffalo mill."

Egg Production Course

ATHENS, GA. — Using concentrates in mixing feed on the farm will be one of the topics of discussion at the commercial egg production course in Athens April 8. Other subjects on the program, in addition to panel discussions, will include new developments in parasite control and integrated market egg production, according to Dewey McNiece, extension poultryman at the University of Georgia. The university is sponsoring the course.

New Tranquilizer Now Available for Feeding of Lambs

NEW YORK — The tranquilizer Tran-Q is now available for use in fattening-lamb rations, according to an announcement this week by Chas. Pfizer & Co., Inc.

Several years of research, the company said, have shown that the new additive is a growth promoter for sheep as well as beef cattle.

Pfizer officials said that initial findings of nutritionists at the company's agricultural research center, Terre Haute, Ind., have been confirmed in the past two years in some 20 trials with the additive conducted by college experiment stations and feed manufacturers.

Use of the new growth stimulant for feeding sheep will require supplemental new drug applications by feed manufacturers, Pfizer officials said. Pfizer will assist in processing these supplemental applications for feed manufacturers incorporating Tran-Q in their lamb fattening feeds. It will be made available to manufacturers as a pre-mix containing one gram of hydroxyzine hydrochloride per pound.

Recently summarizing the studies, which involved more than 1,000 animals, Pfizer animal nutritionists said lambs treated with Tran-Q, outgained controls by 10% and were 7% more efficient in converting feed. No effect on carcass quality or dressing percentage was found, according to Pfizer officials.

Pfizer researchers said that, on the average, tranquilizer rations meant an extra 50¢ profit for each lamb fed. "In terms of income to the grower, each gram of tranquilizer returns about $2," company officials announced. "Current recommendations call for feeding 2.5 mg. of Tran-Q per lamb per day." Pfizer spokesmen said the average cost of feeding Tran-Q at recommended levels will run about 20¢ per lamb for a 70-day feeding period.

Commenting on the use of the tranquilizer in treating lambs, Dr. Herbert G. Luther, director of Pfizer's agricultural research center, said, "In lambs we have recorded improvement in rate of gain of up to 28% and up to 20% improvement in feed efficiency. Quantities of Tran-Q as low as 1.2 gm. per ton of feed have given us marked response in sheep.

"These results have indicated a breakthrough in our continuing search for improvements in nutrition of ruminants, an area where we feel much has yet to be accomplished in view of the relatively large amounts of feed still required per pound of gain in the ruminant in contrast to the amounts needed for swine and poultry."

Dr. Luther indicated that research into additional uses for Tran-Q is continuing at Pfizer's research center as well as at experiment stations and in commercial lamb and cattle feedlots.

Columbus Feed Club Plans Youth Night

COLUMBUS, OHIO — Sons and daughters of members of the Columbus Feed Club will be the club's guests at the annual youth night scheduled April 6 at the Terrace Room in the Southern Hotel here.

Scheduled for the evening is Wilbur Fish, "the joy bell ringer," who will entertain the youngsters with a program of music on unusual musical instruments including Swiss bells, musical saws, musical glasses and others.

Also scheduled are a chicken dinner, a free photo of each guest, group singing and other entertainment.

Wives will be the guests at the annual May party May 8, club officials announced.

NUTRENA

(Continued from page 1)

ning and decision-making formerly done at the general office level will be handled at the operating level. Changing markets and producer specialization require us to be closer to our customers and their needs."

The Nutrena president said the company's marketing organization, headed by E. C. Fuller, executive vice president and marketing director, will include sales operations and four staff departments: market research, under Dr. J. Robert Miller; advertising and promotion, under Frank P. Berry; plans and programs under Clarence L. Whitworth; products, and pricing and service under Robert H. Mason, former St. Louis division manager.

Sales Operations

Sales operations will be directed by Ralph V. Grier, newly-appointed general sales manager, with the field sales organization operating under four regional sales managers: northern region, Warren E. Engelland, former division sales manager at Sioux City, Iowa; central region, Earl J. Raff, former division manager at Kansas City; southwestern region, R. E. Whitworth, Jr., former division manager at Wichita Falls, Texas, and southeastern region, Hal L. McGeorge, Jr., former division sales manager at Memphis. Henry R. Patton becomes sales training manager, replacing Mr. Grier.

Regional sales managers will headquarter at the new regional offices and will supervise a total of 18 district sales managers. Each of the latter will be responsible for sales in a portion of the regional area, and for supervision of the territory managers and specialists in his district.

Credit, Finance

Another feature of the Nutrena plan, Mr. North said, is a streamlined credit and finance department managed by Waldo L. Hull, working under treasurer and over-all administrative director Lloyd M. Smith.

Mr. North said that experienced credit managers at each regional office will handle many of the credit decisions formerly made at the company's general office. The regional credit managers will be: northern region, Ralph B. Latchaw, former division manager at Minneapolis; southeastern region, John C. Norvell, former division manager at Memphis; southwestern region, Art D. Sandvig, former division office manager at Kansas City, and central region, Eugene L. Griggs, former division office manager at Coffeyville, Kansas.

Production

Nutrena feed plants and production, under vice president and director of manufacturing D. V. McDonald and assistant Robert G. Bartikoski, will be supervised by the following regional production managers: central region, William J. Cain; southeastern region, Powell N. Gaines; northern region, M. M. Noxon, and southeastern region, J. E. Branch. Plant superintendents at each of the company's 14 mills will report to the regional production managers.

Purchasing will continue to be directed by vice president L. O. Hauskins and assistant R. N. Toyen. Regional administration managers and branch managers at each of the company's mills will handle purchasing at their respective levels.

Mr. North pointed out that along with reorganization of operations, Nutrena is in the process of physical plant expansion, including construction of a new mill at Lennox, S.D., a new bulk warehouse at Charles City, Iowa, new bulk distribution centers at Oklahoma City and Rome, Ga., and expansion and modernization of production and bulk handling facilities at virtually all of its manufacturing mills.

Texas, New Mexico Launch Drives to Stop Khapra Beetle

Eradication of the khapra beetle is the goal of a cooperative program involving the U.S. Department of Agriculture and the agricultural departments of Texas and New Mexico. (Earlier report, Feedstuffs, March 21.)

The grain-destroying insect has been found in at least 13 locations in the El Paso, Texas, area and in three grain storage plants in New Mexico.

Charles Chapman, chief, Texas Department of Agriculture plant quarantine division, said El Paso County is now under state quarantine and fumigation of products which may harbor the insect is required.

Fumigating

The New Mexico Department of Agriculture has started fumigating grain storage bins reported to be infested.

It was reported that infestations of the khapra beetle were discovered in several places in New Mexico about three years ago, and after a campaign of several months the state was rid of the insects. Since then the state has had emergency funds specifically earmarked for the control of the beetle.

At last report, state inspectors had checked 166 shipments from an El Paso, Texas, feed mill to points in Texas, New Mexico and Mexico.

LAYERS

(Continued from page 1)

ed because the March 1 laying flock was 3% larger than last year, and rate of lay so far has averaged 3% above 1958, with the greatest increase —almost 9%—occurring March 1, the latest date reported. Rates of lay during the remainder of the year also are likely to be above a year earlier. USDA reports flock size in late 1959 will be maintained by the relatively large hatch in late 1958, even if fewer replacement chicks are bought this spring.

Prices are expected to continue below 1958 for some months because of the large supplies in prospect. It's possible, says USDA, egg prices could rise to or above a year earlier by late 1959—if farmers raise substantially fewer chicks than indicated by their intentions or by hatchery activity to date.

Egg prices have moved erratically downward since the beginning of 1959. Present declines are usual, reflecting the increasing volume of egg production. The U.S. average price of eggs received by farmers in mid-February was 35.4¢ doz. Most wholesale quotations since then have moved slightly downward. Last year the average egg price was 36.6¢ in February and rose to 40.8¢ in mid-March because of storm conditions.

Broiler Prices

Broiler prices have fluctuated since the lows of late 1958, when they were about 14¢ lb. in southern producing areas. In mid-January they were 18¢, the 1959 high to date, but in mid-March they were generally about 17¢.

In the past years prices have reached a seasonal peak during the summer when demand is strongest, and have been seasonally low during November and December when demand is weakest. USDA said that, judging from current prices and prospective supplies, monthly prices through May this year are unlikely to rise significantly above the January-March average. This reflects large supplies of broilers and of cheaper, more plentiful pork, rather than a shift in the composite pattern of demand for these two products, according to USDA.

Zinc Bacitracin Antibiotic Supplements

BROILER

(Continued from page 1)

built on the theme, "Chicken, the food of the future."

Although there were some expressions of opinion during the conference sessions that the major problem was overproduction for the size of the present market, the majority seemed to accept this condition as the inescapable result of a lack of any feasible method of production control.

Blame for Low Prices

Some of the blame for the price situation was laid to merchandising practices of retail stores which use chicken as a loss leader to draw store traffic. It was charged that while these special price promotions send volume of chicken sales skyrocketing, the aftermath is a big slump when retailers move their margins back to normal or even above normal in succeeding weeks. This see-saw tends to slow down consumer demand to the extent that farm prices weaken, at which time retailers set up another loss-leader deal to move the backlog.

However, there was evidence that chain stores at least are as unhappy with this situation as are broiler growers. In a panel discussion on what retailers can do to sell more chicken profitably, Joseph Mueller, of the National Tea Co., Chicago, said that chicken loss-leaders are not the traffic pullers they were a few years ago. He said chains have been losing 7@9¢ lb. on such sales, and that it was suggested to the national chains recent convention that a minimum mark-up of 3@5¢ lb. be made on all such promotions. While there was nothing definite promised, indications were that chains would be doing less loss-leader work with chicken in the future.

Better Merchandising Planned

Other speakers emphasized that not enough was being done in the way of merchandising in the stores in non-promotion weeks or in the way of product development. Both of these points will get attention in the new promotion program planned by the council.

Charles C. Withers, of the Harvard Graduate School of Business Administration, said that the solution of the problem lies at the retail food counter, and urged processors to do a better job of marketing to win a preferred position in stores. He also urged the broiler council to provide its members with the kind of forecasting service on the consumption side, which would be as good a guide to future demand for chicken as the present U.S. Department of Agriculture 22-state reports on placements give to the supply side of the picture.

Mr. Withers condemned marketing of birds in areas a long way from the processing plant, areas which are not natural markets. How this affects everyone also was pointed out by Trienah Meyers, of the USDA Agricultural Marketing Service. A. C. Nielsen, Jr., Chicago marketing expert, told the council members that present industry promotion work must be stepped up and suggested greater brand identification and new methods of packaging as fruitful avenues for exploration.

Export Sales

There is some possibility of expanding export sales, David L. Hume, of the USDA Foreign Agricultural Service, said. In the last five years, poultry meat exports have more than tripled. Despite generally higher costs of labor and materials in the U.S., efficiencies here have offset these expenses to a point where poultry meat can be landed in foreign countries duty-paid at competitive prices. One of the limiting factors, Mr. Hume said, is the present small refrigeration space at wholesale and retail levels abroad, but the overall outlook is good.

Unionization has been increasing in the broiler industry, and two speakers were on the program to discuss labor regulations. These discussions were primarily from the standpoint of processors and there was no reference made to recent efforts to organize growers in some areas.

Labor Relations

James A. Gilker, Ft. Smith, Ark., attorney, cited seven phases of broiler production from hatchery to retailer which are subject to labor unionization. He said the broiler processing industry today is in about the same position that meat packers were in 1937, when only a minor portion of the industry was unionized. Mr. Gilker declared that most states are less than 10% organized now in broiler processing, although a few areas are heavily organized. He predicted that unionization would spread out from processing plants to allied activities in hatcheries, feed mills, etc. Most meat buyers for retail stores are favorably disposed toward the butchers' union, he said, since many of them started as members of that union.

Mr. Gilker forecast a tendency toward standardization of union contracts throughout the whole industry, and said that management must devote more time and thought to its labor relations.

Benjamin Werne, New York City labor counsel, said that management must concentrate on programs and plans aimed at recapturing control of its employees. This means economic education for employees, training programs for supervisors, adequate communications, welfare plans and the like. In the matter of negotiations, he said the importance of management counter demands cannot be overstressed and stressed that it is important to be able to separate real demands of the union from "window dressing" demands.

Integration

Although integration has gone so far in the broiler business as to be an accepted fact, the topic was discussed by Dr. Earl Butz, of Purdue University, former assistant secretary of agriculture, from the standpoint of its social and political implications. He said that the hitherto typical system of farm ownership and one-man operation is giving way to group ownership under professional management, multiple tract ownership or management under contract. He also said this will mean that negotiated pricing will tend to displace the present competitive price-making structure.

"We shall see the development of price bargaining agencies among producers, who will attempt to bargain growing terms and prices before the crop is planted, the eggs put in the incubator, or the livestock bred," Dr. Butz said. "Bargaining may center around rates of compensation to be paid producers for performing certain tasks in the production process, with the selling price determination being left up to the skill of the integrator after the production process is completed. The real problem will be to compensate the producer adequately for his work and still maintain in him the incentive for efficiency of production which he had when he carried his own risk. This will not be easy."

A fourth social implication is vast changes in methods of marketing, Dr. Butz said, which will result in completely changed patterns of operations and functions.

The political implications of these changes he defined as follows: (1) Decreased political power for agriculture; (2) politicians resisting vertical integration in agriculture; (3) government aid for producers to organize bargaining units to deal with processors on matters affecting price and production agreements; (4) increased regulation over the entire marketing structure; (5) growing government discrimination against the larger processors, and marketing agencies who attempt to initiate integration arrangements.

There were about 400 registrations at the convention which was the first meeting of this kind for the National Broiler Council. The council members include growers, processors, hatcheries, feed mills and others interested in promoting the development of the industry. Membership funds support a program of merchandising, advertising and consumer publicity aimed at increasing consumption of chicken.

Details of this 1959 merchandising program were presented to the members during the meeting.

Officers

During the conference Don Corbett, Waterville, Maine, was selected the new president of the broiler council, succeeding Joe Fechtel, Dallas.

Other officers elected include Ray Firestone, Troutville, Va., first vice president; Bob Schram, Peru, Ind., second vice president; Bill Simmons, Siloam Springs, Ark., vice president; Ralph Cleveland, Gainesville, Ga., treasurer; Henry Saglio, Glastonbury, Conn., vice president and Frank Frazier, Richmond, Va., executive vice president.

Serving with these officers on the NBC executive committee will be Mr. Fechtel and Charles Vantress, Duluth, Ga., chairman, program committee.

Directors for 1959 are: Southeast, R. W. Cleveland, Gainesville, Ga.; E. S. Kendrick, North Wilkesboro, N.C.; Charles C. Miller, Jr., Piedmont, Ala.; H. F. McCarty, Jr., Magee, Miss.; Wayne Foust, Owensboro, Ky.; Franklin P. Hurst, Dayton, Va.; Shannon Skelley, Albertville, Ala.; J. M. Tankersley, Gainesville, Ga.; Fred L. Gaddis, Forest, Miss.; Willard Strain, Dalton, Ga.; Dennis W. Ramsey, Rose Hill, N.C.; Mays Montgomery, Athens, Ala.; Willard Adcox, Dalton, Ga.; J. E. Beasley, Jr., Athens, Ala.; H. C. Kennett, Durham, N.C., and B. C. Rogers, Morton, Miss.

Directors for the Southwest are: Raymond J. Higgins, Hot Springs, Ark.; G. R. Iley, Gonzales, Texas; Lloyd E. Peterson, Decatur, Ark.; R. J. C. Tricou, Jr., New Orleans, La.; E. D. Shelton, Smiley, Texas; Don Tyson, Springdale, Ark.; Ray Clymer, Longview, Texas, and J. K. Southerland, Batesville, Ark.

Northeast directors are: Dinsmore Worthing, Waltham, Mass.; Edward H. Covell, Easton, Md.; Webb Cassell, Salisbury, Md.; Robert C. Cobb, Jr., Concord, Mass.; Frank Lipman, Augusta, Maine; Frank Perdue, Salisbury, Md.; Don Corbett, Waterville, Maine, and J. R. Hargreaves, Federalsburg, Md.

Midwest directors are: Alfred Lambrecht, Brookfield, Wis.; Glenn Fisher, Lafayette, Ind.; Charles Dixon, Monette, Mo., and Dwight Roth, Goshen, Ind.

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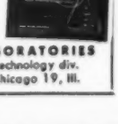

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CAPITAL COMMENT

BY JOHN CIPPERLY

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — The sterile objectives of the Democratic majority in Congress in any remedy of the accelerating farm problem were exposed this week.

Agriculture committees of both chambers, as well as what is now known as the "oversight" committee of the House committee on governmental operations — possibly more properly known as the "hindsight" committee—are now sharp-shooting at U.S. Department of Agriculture administrative officials in an effort to build up political fire-wood for the campaign of 1960.

It may be appropriate to mention that congressional committees have appointed sub-committees which the main committee is pleased to call an "oversight" committee, the purpose of which is to review the failings of the administrative agencies acting under laws passed by Congress. .

To this reporter, it seems more appropriate to call such committees "hindsight" committees since they, by their own actions, now are calling on the legislative carpet USDA administrative officials to account for their decisions under the vague and rubber-like provisions of the farm law, as in the case of USDA.

Paul C. Jones (D., Mo.), as head of an agriculture House committee that opened hearings this week, had said he expected the hearings on grain storage to be concluded in a short morning session of his subcommittee. It developed that the hearings were expanded to drag into the session the heated topic of rates for grain storage and the cost of building grain storage.

Storage Costs

He read from a paper not available to the press questions as to cost of storage construction and payment of storage rates by USDA under the Uniform Grain Storage Agreement, and subsequently stated that he intended to call in the grain warehouse industry to testify before his committee on the cost of erection of storage facilities, and to substantiate rate charges now in effect under the Uniform Grain Storage Agreement.

The sub-committee chairman's interest in storage charges and cost of warehouse construction belies his pre-hearing session wherein he said he expected that the hearing would be promptly concluded. As mentioned, he said that he would call in warehousemen to testify on storage construction costs and to support costs of storage of government grain.

The Jones sub-committee in the House agriculture committee may represent a tough examination of the grain warehousing industry, particularly as regards storage charges.

Senate Views

On the Senate side, this "uppercrust" body assumed a more sedate view of farm problems as it heard spokesmen from the American Farm Bureau Federation and those from the allied wheat leagues — leagues which have accumulated a bank account which would make the mouths of Tammany leaders in New York City or presidential aspirants from the Northwest, water freely — set forth opinions on the extremely serious wheat problem.

For the farm bureau, its spokesman from Nebraska asserted that the AFBF wanted lowered levels of support for wheat for the 1960 crop at fixed level of support based on the average market price for that crop of the preceding three years. The AFBF joined in most others in refusing to give any secretary of agriculture, including Mr. Benson, discretionary authority to fix the level of support at 75 to 90% of the preceding three years' national average market price.

It is doubtful that any Congress would give such an outright grant of discretionary authority to any secretary of USDA.

It now again seems probable that

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T. R. Edgerton

SALES REPRESENTATIVE—T. R. Edgerton has joined the M. A. McClelland Co., Kansas City, as sales representative, according to an announcement by M. A. McClelland. Mr. Edgerton will represent the firm in Iowa, Nebraska, Kansas, Missouri, Oklahoma and Arkansas. A graduate of Kansas State College with a B.S. and M.S. in chemistry, Mr. Edgerton represented Merck & Co. in the Kansas City area for some years and later was associated with Red Star Yeast & Products Co. and with Albers Milling Co. M. A. McClelland Co. was established in 1944 by M. A. McClelland. Bradley Barr has been associated with the firm since 1949 and Mary K. Cronin since 1947.

Pfizer Seminar

SPRINGDALE, ARK.—Chas. Pfizer & Co., Inc., has announced its second annual poultry nutrition seminar here. It will be held at the A. Q. Chicken House in Springdale on April 8, 3 p.m. Following the formal program, at which scientists from the firm's agricultural research center will present latest developments in the field of poultry health and nutrition, there will be a hospitality hour and buffet supper.

ANNOUNCE NEW SON

KANSAS CITY — Mr. and Mrs. Ronald E. Franzen announce the birth of their first child, Mark Edward, March 20. Mr. Franzen buys feed ingredients for General Mills, Inc., here.

Results of Purdue Cattle Tests Topics For Feeders' Event

LAFAYETTE, IND. — Results of beef cattle research conducted during the past year at Purdue University will be presented during the annual Indiana Cattle Feeders Day April 24. Reports will start at 10 a.m., with Prof. Henry Mayo, animal husbandry department, as chairman.

The program will be opened by a discussion of "Hand Feeding vs. Self Feeding and Shelled Corn vs. Ground Ear Corn" by C. H. Nickel, manager, Lynnwood Farm, Carmel. Dr. F. N. Andrews, professor of animal husbandry, will appear next to present results of research on male and female hormone combinations for fattening heifers. Roughage dehydrating and pelleting wil be the subject of a talk by Prof. M. T. Mohler, animal husbandry department; the title is "The Value of Corn Silage, Pelleted Corn Silage, Pelleted Whole Corn Plant or Pelleted Whole Sorghum Plant for Beef Calves." Dr. T. W. Perry, professor of animal husbandry, will discuss "Regular Shelled Corn and High Moisture Shelled Corn with Linseed Meal and Urea Modifications of Supplement A," and Dr. W. M. Beeson, professor of animal husbandry, will conclude the morning program with a discussion of "Tranquilizers in Combination with Either Implanted Stilbestrol or Oral Antibiotics for Fattening Beef Calves."

The day's program will start at Purdue's new livestock research barn three miles north of the campus, where visitors will have the opportunity to see a portion of experiments currently in progress with 280 head of feeder cattle.

Lunch will be served by the Purdue Block & Bridle Club. The afternoon program, which will be composed of speakers other than Purdue staff members, will be at the livestock judging pavilion, starting at 1 p.m.

Comments on Taste Study, Flavor Use

ITHACA, N.Y.—A Cornell University professor, discussing some research on animals' sense of taste, has commented on the use of flavor in feeds.

In a news release issued by the university, Dr. Morley Kare says that "the value of most commercially available feed flavors is probably negligible."

Dr. Kare, associate professor of veterinary physiology, has directed most of the research. Taking part in the study, according to the university, have been veterinarians, psychologists, nutritionists and conservationists.

Indicating that "literally hundreds of flavors have been studied under a multitude of conditions," Dr. Kare stated: "In our opinion, no generally acceptable evidence has been published to indicate that any commercial feed flavor will cause an animal to eat more or be more productive. Those commercial flavors we have tested have a questionable appeal to domestic animals, let alone a stimulating effect on feed consumption."

Dr. Kare said his conclusions are "especially applicable to artificial fruit flavors such as cherry, strawberry, grape and to anise. We tested one product which actually serves as an effective repellent for the animals it's supposed to attract." Mentioning synthetic sweeteners such as saccharin, he added: "The animals we have tested are not attracted to these sweeteners as humans are."

"Many feeds," he asserted, "have been developed to appeal to people rather than animals because people are the ones who buy them. We have worked with a feed which has an

(Turn to TASTE, page 119)

TEST UNIT—This is a section of a broiler test unit at the Wirthmore research farm, which was used in recently completed coccidiosis studies and vaccine experiments.

Coccidiosis Vaccine Testing Announced By Wirthmore Feeds

WALTHAM, MASS.—Test work in the development of a coccidiosis vaccination program for replacement pullets and heavy meat birds has been completed by Wirthmore Feeds, Inc., Waltham, according to Dr. Walter Glista, Wirthmore director of research.

The coccidiosis vaccination program involves use of a vaccine administered in drinking water at 3-5 days of age, along with use of an approved coccidiostat in the feed for the first 5-6 weeks only, Dr. Glista said.

"The technique offers great promise to the poultry industry as an aid to improved immunity development to cocciodosis," Wirthmore officials said.

The studies, conducted at the Wirthmore research farm, Berkley, Mass., involved a series of 10 experiments started at various intervals throughout one full year, using more than 25,000 birds. Dr. Glista reported that field trials have also been completed with 35,000 additional birds.

A 50-page report summarizing the studies is being made available by Wirthmore to experiment station pathologists in the company's 17-state marketing area before general release of the information through Wirthmore's poultry service department.

The report refers to the development of the vaccine by Dr. S. A. Edgar, Alabama Polytechnic Institute.

Feed Flavors Being Studied at Minnesota

ST. PAUL—Some preliminary observations on research work with feed flavors were reported this week by Dr. Rodney A. Briggs, associate professor of agronomy and plant genetics at the University of Minnesota.

Dr. Briggs, who has been working primarily with silage, commented that he had obtained evidence of "good palatability" with the addition of flavoring compounds with which he has been working. Results, he said, look encouraging and he plans to study the subject further.

Dr. Briggs also reported that he had found flavor compounds he is working with to be effective in masking odors of silage in one test. He said that up to now he had not obtained results that indicate storage is improved by addition of flavor products.

The work was described by Dr. Briggs as "exploratory only," and final conclusions, he said, could not be made at this time. He commented that he feels "the concept of adding flavors to feeds is sound."

FEED MILL PLANNED

EFFINGHAM, KANSAS—The Effingham Cooperative Assn. plans to construct a feed mill this year.

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Virginia Workshop Sessions Provide Answers to Questions on Nutrition

ROANOKE, VA.—General feeding practices and nutritional requirements were given a thorough discussion here in a group of evening workshops held as a part of the Virginia Feed-Nutrition Conference.

The evening discussions were informal sessions held to give feed men a chance to ask questions on information presented during the formal morning and afternoon sessions of the two-day conference. (Summaries of the addresses presented during the daily sessions were included in Feedstuffs, page 86, March 7, 1959.)

Summaries of the evening workshops were provided by Paul M. Reaves, professor of dairy science at Virginia Polytechnic Institute, Blacksburg, and co-chairman of the conference.

Dairy discussions centered on the essentials of a dairy ration, and they covered energy content, variety, palatability, minerals and vitamins.

It was pointed out that energy is a major requirement that should be of primary concern in the formulation of a ration. In this connection, speakers said a dairy ration should contain at least 2½% fat.

The question of whether variety is necessary in a dairy ration has not been fully studied, but research already reported indicates that the dairy cow does not need a ration that contains a variety of ingredients. North Carolina research now in progress testing simple (corn, oats and cottonseed meal) and complex concentration mixtures does not show any differences in production between the two mixtures, panelists said.

They pointed out, however, that a concentrate mixture should be highly palatable, and indicated that palatability in a feed is of more importance in a well-managed, high-producing herd than in an underfed herd. This is especially true when feeding large amounts of grain.

Panel members were not entirely agreed on the need for trace minerals in the ration. Research data does not indicate a need for trace minerals except under certain conditions and in certain areas where a deficiency of one or more of the minor elements may be lacking or be in small amounts in the forages fed the cow. Panel members pointed out that this was another case where very little is known about the actual requirements of dairy cattle for most of the mineral elements.

Minerals

Discussion indicated that it is possible that minerals can be fed in excess with more harmful results than if the animal is fed less than the amount required. Certain elements should be fed in a certain ratio for best results, the speakers said. This is especially true for calcium and phosphorus. Therefore, they said, dicalcium phosphate may be a better source of calcium and phosphorus than ground limestone and a source of phosphorus. It was stated that salt, phosphorus, calcium and possibly iodine should be included in all rations. There was also general agreement, especially in the face of the lack of experimental evidence, that the addition of trace minerals in the feed might serve as insurance against a deficiency of a minor element in the ration of the animal.

Vitamins are not likely to be deficient in the ration of the dairy animal under present feeding conditions, speakers said. If the ration is of such a nature that a deficiency in vitamins results, the vitamins concerned would be A, D, E and K. It was brought out that it is difficult to deplete an animal of vitamins under experimental conditions designed to attempt this. Under certain conditions, as in the prevention of milk fever, it may be advisable to feed large doses of vitamin D for short periods, they said.

Pelleting

Pelleting of the concentrate mixture for dairy animals was discussed from the standpoint of the effect on consumption and palatability. Panelists were not completely agreed that pelleting has a favorable effect on these factors.

In answer to a question on whether urea is an economical source of nitrogen, it was pointed out that urea furnishes only nitrogen, while protein-rich ingredients such as the oilseed meals furnish considerable energy with the protein, and this is a factor to be considered when deciding if urea is to be used.

The use of ameonycin in the ration of a dairy cow has not been demonstrated in controlled experiments, and it is not known whether there are adverse effects if the ration contains the antibiotic, panelists said. It was pointed out that research on the feeding of ameonycin is now in progress.

A question on the effect of nutrition on the solids-not-fat content of milk brought the answer that adequate energy is important but not the entire answer. Research in this field is also under way at the present time.

Discussing the addition of stabilized animal fat to the dairy ration, panelists said that in a North Carolina State College study a ration with 8% added stabilized animal fat had no appreciable effect on palatability or milk production when compared with the controls. Each pound of fat added gave results equivalent to 1 lb. of carbohydrate. On a cost basis under the conditions of the experiment, it was not economical to use the animal fat as a source of energy. It was also brought out that reports from other stations indicate that the addition of animal fat decreased the digestibility of fiber and dry matter.

Poultry Feeding

In the poultry workshop, Dr. P. R. Record, Security Mills, Inc., Knoxville, Tenn., who spoke on feeding replacement in the afternoon session, was asked several questions on restricted feeding.

With Leghorn-type pullets, he said, restricted feeding has little or no effect on egg size and no strain differences have been noted. He said that it costs more to restrict feeding by the addition of fibrous feeds (approximately 25¢ per pullet). For broiler pullets, Dr. Record recommended re-

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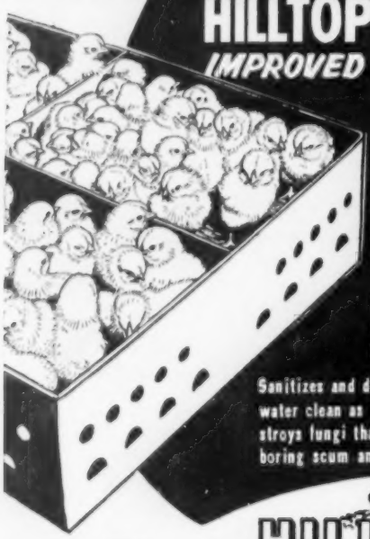

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OUTSTANDING MEMBER — B. H. Achenbach (right), B. H. Achenbach Grain Co., Julesburg, Colo., is shown receiving the plaque awarded each year by the Colorado Grain, Milling & Feed Dealers Assn. to its outstanding member. The award was presented during the recent annual convention by Del Ellis (left), president of the association. Mr. Achenbach has been in the grain business 50 years, and during the convention announced his retirement as a member of the board of directors of the association.

stricted feeding to achieve better egg size when production starts.

He said restriction of feed prior to six or eight weeks of age is not desirable. Rather, he suggested that the birds be grown out fast on a good starter feed.

Asked if feed can be restricted by restricted lighting, he said birds eat feed even in the dark.

In answer to a question on the effect of feed restriction on the second year of production, Dr. Record said there is no data on the subject.

Date of hatch is something to consider on production of broiler hens, he said. Birds hatching in January get about 6 to 7 months of production, while those hatching in June get about nine months of production.

Stilbestrol

A discussion of the use of stilbestrol was one of the highlights of the swine, beef cattle and sheep workshop. Panelists said the recommended implant levels are as follows: Grazing beef steers, a 12-mg. implant at the beginning of the grazing season; drylot-fed fattening steers, a 36-mg. implant at the beginning of the feeding period.

Asked if it is recommended that fattening heifers be implanted, panelists said it is recommended, but that there will be some minor side effects and the response will be only about 50% of that in steers.

A third question was whether stilbestrol should be used when steers are grazed and then go into the drylot for fattening. The answer was that the hormone should be implanted at the beginning of the grazing period, and then be either reimplanted at the beginning of the feeding period or be fed during the feeding period.

In the hog feeding discussion, panelists said it is not essential for a farmer to grow corn to produce hogs profitably. They said a high degree of specialization in swine feeding may increase efficiency sufficiently to offset the cost of transporting the grain.

For a feeder with a large number of swine, it was recommended that supplement and grain be mixed rather than fed free choice because of the labor saving that can be realized with power unloading equipment.

Further discussion of swine feeding problems brought a question on the relative effects of confinement feeding and pasture feeding of hogs on the carcass. The panel's answer was that hogs gaining at the same rate will show no difference, but it was pointed out that under some conditions, pasture-fed hogs gain at a slower rate and consequently have a higher lean-to-fat ratio.

NEW MID-SOUTH MEMBERS

MEMPHIS, TENN. — The Mid-South Soybean & Grain Shippers Assn. has five new members. They are Winnsboro (La.) Elevator Co., Inc.; Bob Steinmetz, Stuttgart, Ark.; M. D. Thompson & Son Co., McCrory, Ark.; Kiech-Shauver Co., Monette (Ark.) Gin, and Hamby & Baxter Soybean Co., Covington, Tenn.

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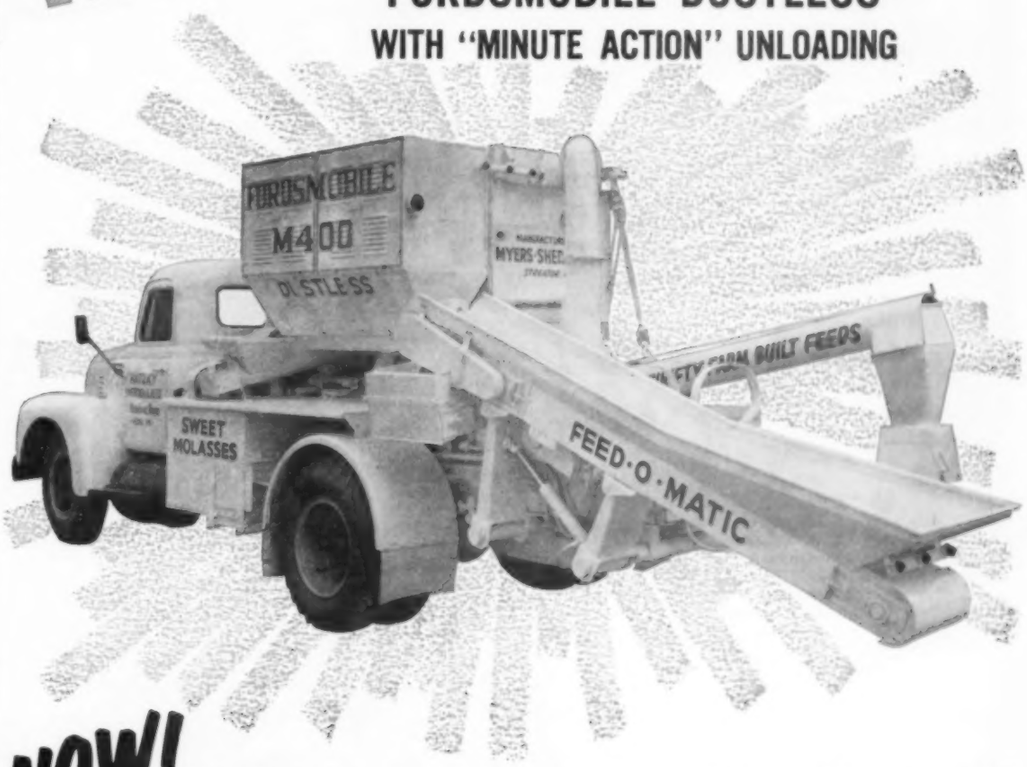

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How the Rindfleisch Company became "Easy to Buy from"

The Rindfleisch Feed Mill and Hatchery serves Jefferson county, a gently rolling rectangle of relatively small but prosperous farms in south central Wisconsin. Few areas are more densely populated with dairy cows or laying chickens, or rank higher in the production of milk and eggs per animal.

Farmers here stress good management—not only the quality of herds and flocks, but the efficiency of feeds and feeding programs. This makes it all the more significant that the Rindfleisch firm has been satisfying feeders in the area for two generations.

Growth has come soundly and steadily for the Rindfleisch organization. A feed mixer was added to the Jefferson hatchery in 1942 . . . a portable mill in 1950. That same year in neighboring Watertown, a branch retail feed outlet was opened, which today is managed by Harold Rindfleisch, founder of the firm and father of its president. The Rindfleisches also operate a poultry breeding farm which supplies eggs for their hatchery.

It's an "easy firm to buy from". . . Jim Rindfleisch, president, tells why:

❶ "This is our *business family* portrait. Standing are Ed Rindfleisch, secretary-treasurer, and Jack Dabareiner, vice president. That's me on the left, sitting next to Bill Day, Archer service representative in this area. Bill is an important member of our team . . . typical of the fine service and cooperation we've always had from Archer."

❷ "Bill works closely with us selling new accounts and servicing long-time customers. We also draw on his management and promotion experience. This help, coupled with the outstanding research and merchandising backing the Archer home office supplies, gives us a team we're proud of."

❸ "But we couldn't have progressed as we have without a line of feed that offers way-out-in-front performance. That's what Dad had in mind years ago when he took on Archer. With Archer you can make strong claims, promise the farmer bigger profits and be confident that your promises will come true."

❹ "It stands to reason you can do a much better selling job when you're sold yourself. Well, our experience feeding Archer at our poultry farm has sold us. Nutritionally, nothing holds a candle to it."

❺ "The fact that Archer makes a complete line of feeds is also mighty important to us. Besides poultry, most farmers in this area have good sized dairy herds and raise hogs and some turkeys. We sell a lot of Archer to mink ranchers, too."

❻ "You won't find a more progressive group of farmers anywhere in the world than right here in Jefferson county. The Beane's—whose 146 acre farm was selected for the Third Annual Farm Progress Days event in 1956—are pretty typical. Laura Beane raises about 800 pullets each year. This winter her flock has been laying at 84% production, and at a cost of only 13¢ per dozen eggs. We're proud to say she buys both her chicks and feed from us. Like his wife, Craig Beane also is an Archer Booster. This prize cow produced 672 pounds of butterfat with a 3.9% test in her 7th year. That's quite a record, of course, but Craig gets similar results from all his cows feeding Archer. That's why we recommend this line to any dealer without reservations."

"and best of all," agrees the Rindfleisch management,

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Letters to the Editor

Broiler Merchandising

Salisbury, Md.

To the Editor:

While tremendous strides have been made in recent years in improving broiler quality and lowering production costs, the big problem of merchandising has been ignored.

During the recent months of ruinously low prices paid the producer, there was no difficulty in selling poultry, indicating that there was no actual surplus, and that all of the chickens produced were being consumed.

How can the merchandising problem best be solved? I believe that the answer lies in the formation of merchandising cooperatives. Inasmuch as I have been connected with the Delmarva Poultry Industry for more than 20 years, what I say here applies particularly to that area, although it would apply with equal force to any other region.

Because of our geographical location, let us say for sake of argument that the area we would normally serve would be the northeastern quarter of the U.S. This doesn't mean that we would be the only ones seeking the opportunity to serve this area. We would have to fight for our share of this market.

To start with, the cooperative would contract with the existing processing plants for New York dressed poultry. From that point on the cooperative would take over and merchandise the poultry in whatever form the public would demand. Of course all of this poultry would be trade-marked "Delmarvalous" so that it could be readily identified by the buying public.

Then would come the job of merchandising the product. To accomplish this, the cooperative should establish distributors in all of the key cities in the area we could best serve. Once these distributors are established they would be served by refrigerated trucks from a central point. The distributors would in turn deliver to retailers by using smaller refrigerated trucks. This might necessitate the construction of a central processing plant and cold storage facilities. What better place for this than at the point of production? Of course it would be necessary to conduct a strong merchandising campaign to support the distributors.

For the past several years the Delmarva Poultry Industry has held an annual $100-a-plate dinner to raise funds for promoting the welfare of the industry. Every year a substantial amount is given to the Poultry & Egg National Board. In fact, one year I think we donated to them the largest contribution that had ever been donated by any organization.

Now we have a very high regard for the Poultry & Egg National Board and believe that they have done a splendid job in their field. But their field is not ours, and our problems are not theirs exclusively. Our job is to sell Delmarva Broilers and only Delmarva Broilers.

It is our belief that the effort to raise money from the industry itself should continue. All segments of the industry have cheerfully supported this effort in the past, thereby showing that they are willing to try to help themselves. It is our thought that this money could be better used in the promotion of Delmarvalous Broilers, and that this work should be done by ourselves, rather than delegating it to some one else.

Frank T. Swain
Frank T. Swain & Son
Commodity Brokers
Salisbury, Md.

NEW IOWA STORAGE FACILITIES

JEFFERSON, IOWA — Ralston's Cooperative Assn. has started construction of grain storage facilities here estimated to cost half a million dollars, Karl Nolin, manager, announced. Grain capacity of the concrete elevator will be 600,000 bu. and a flat storage building will hold another 100,000 bu. Mr. Nolin said the elevator should be in operation by Aug. 1. The firm at Ralston, near Jefferson, operates an elevator, feed mill and soybean mill, but will confine operations at Jefferson to the grain storage facility.

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Ohio Experiments Show Possibility of Producing Dairy Beef Profitably

WOOSTER, OHIO — Three experiments in the production of dairy beef at the Ohio Agricultural Experiment Station here indicate that it can be a profitable operation under certain conditions.

Dairymen who have the necessary barn space, feed and labor may find it worthwhile to raise their male calves either for feeders or to be fed out to slaughter weight, according to a report in Ohio Farm & Home Research, published by the station.

The Ohio experiments, reported by Dr. J. W. Hibbs and Dr. H. R. Conrad of the dairy science department and L. E. Kunkle, Dr. V. R. Cahill and Dr. E. W. Klosterman of the animal science department show that the opportunity for profit in dairy beef production is about the same where dairy calves are raised economically to feeder age on the farm as when relatively high-priced beef type feeders are bought.

Nineteen Holsteins, 15 Jerseys, four Brown Swiss and six Herefords were used in the experiments. Aside from certain experimental variations, the general plan was to raise the calves to feeder age (six months) using the Ohio high roughage system. This was followed by a six-month growing period during which the ration consisted of corn silage, limited alfalfa hay and a small amount of grain concentrate in some lots.

From one year to slaughter at 17 months, a fattening ration was fed. This consisted of free choice corn and cob meal, plus limited corn silage and limited alfalfa hay.

The high roughage system proved to be economical in producing growthy calves to feeder age, the researchers said. Using current feed prices, average feed cost per pound of gain to six months was 16¢ when whole milk was fed and 13¢ when dried skim milk was substituted for whole milk.

Feed cost from six months to one year was 14¢ lb., and during the fattening period it was 18¢ when corn and cob meal was fed free choice with limited hay and silage.

The average feed cost per pound in dry lot from birth to slaughter was 16¢. This could have been reduced by using pasture in season between four to six months and one year of age.

Greatest average difference between live weight value and feed cost (total "profit" per steer) occurred in the larger dairy breeds: Holsteins, $38.97; Brown Swiss, $65.04; Jerseys, $7.46; Herefords, $74.09.

Corresponding average "profit" per cwt. for the different breeds were: Holsteins, $3.56; Brown Swiss, $5.69; Jerseys, 95¢; Herefords $8.07. (Feed cost was estimated in one lot of two Holsteins, one of six Jerseys and the lot of six Herefords at 16¢ per pound of gain to 35 weeks.)

In the Hereford lot, if the initial weight at 35 weeks minus 75 lb. birth weight is valued at 25¢ lb. (actual cost) the total "profit" would be reduced to $39.35 and the "profit" per cwt. to $4.29.

"This shows that the opportunity for profit in dairy beef production is about the same where dairy calves are raised economically to feeder age on the farm as when relatively high priced beef type feeders are bought," the researchers reported. "Differences in initial cost would alter these relationships as would also different prices for feed and beef. Market grade proved to be the principal factor in the live weight value and profit differences."

While differences in efficiency of feed utilization and costs of producing gains among the various breeds were not large, the value of the fattened animals at slaughter definitely favored the Herefords and larger dairy breeds. Carcass grades were low choice for the Herefords, average good for the Brown Swiss, low good and top commercial for the Holsteins and between top and low commercial for the Jerseys.

Average actual carcass values for the breeds compared were: Herefords, $36.60 cwt.; Brown Swiss, $34.34; Holsteins, $31.02, and Jerseys, $29.17.

10,000TH STUDENT — Robert D. Stucky (left) recently received a plaque in recognition of his being the 10,000th student in the Dr. Salsbury's Laboratories short course. Dr. J. E. Salsbury, president and founder of the Charles City, Iowa, firm, presented the plaque on the opening of the firm's 345th short course class. Held for hatcherymen, feed men, servicemen and growers, the courses stress the fundamentals of disease recognition and recommendations for prevention and control. Lectures are given by specialists on the firm's educational staff, and clinics are also held to give practical experience to students attending. The school quarters include a large lecture room, laboratory, lobby and offices. Classes start at noon Monday of the designated week, and continue until noon Friday of that week.

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TALK IS CHEAP; it's results that count. Many feed dealers across the land have DOUBLED THEIR TONNAGE and TRIPLED THEIR PROFITS on the HONEGGER program. Of course, there is a reason, - - but we know the reason and what others have done, YOU can also do. We promise you this.

Are you being crowded by piddling crossroad dealers? Are you being by-passed on larger feeders? Do you need more territory protection and a more complete line of products that you can merchandise on an exclusive basis? Do you need a more aggressive advertising and merchandising program?

Then why don't you do as hundreds of other good dealers have done and line up today with the most progressive feed company in America.

We're BIG enough to do anything that we need to do, yet SMALL enough to give you and your problems individual and PERSONAL attention.

Write or call us today. Get the facts. We'll show you how to make more money on a PROTECTED and EXCLUSIVE franchise basis.

Ed Hickey
President

No other feed company in America has so much to offer! →

EXCLUSIVE TERRITORY protection gives the Honegger Dealer plenty of room to grow. A piddling dealer at every little crossroads is not Honeggers' idea of effective distribution.

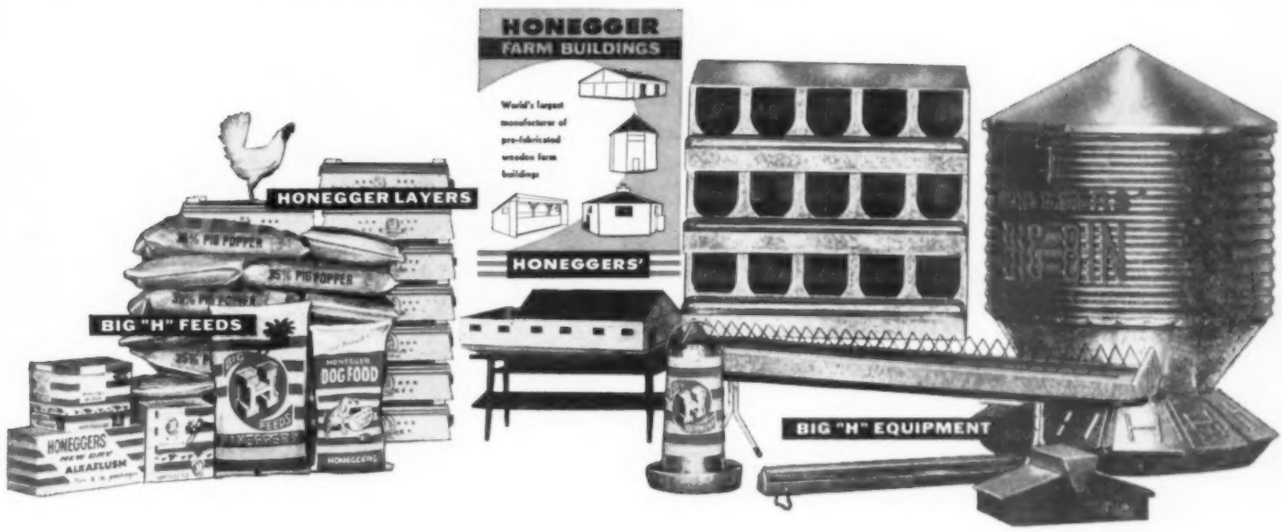
DEALER TRAINING schools at Fairbury-Forrest and monthly district meetings help Honegger dealers and their sales personnel make sales through service. Their know-how and self-confidence makes selling easy, more effective.

SALES ASSISTANCE from well trained, enthusiastic district managers produces new business and keeps Honegger dealers inspired. Product specialists, such as building and equipment salesmen, help dealers close big sales.

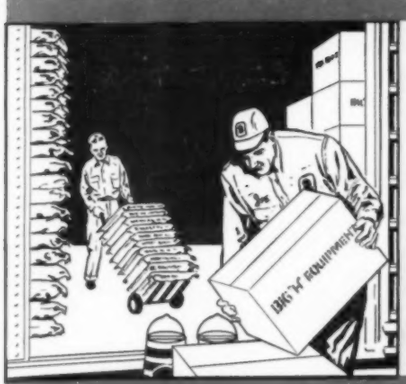
LOCAL PROMOTIONS and "Planned Selling" that move 75-150 tons of feed out of the dealer's stores are not uncommon for Honegger dealers—with bulk of business on cash basis, too. Honeggers help plan and man open houses, hay-makers and ice breakers.

TRIPLE YOUR PROFITS

What others have done....you can do also WITH HONEGGERS' COMPLETE PROGRAM



➔ Write, phone or wire collect for complete details . . . *DAY or NIGHT* . . . Do it today!

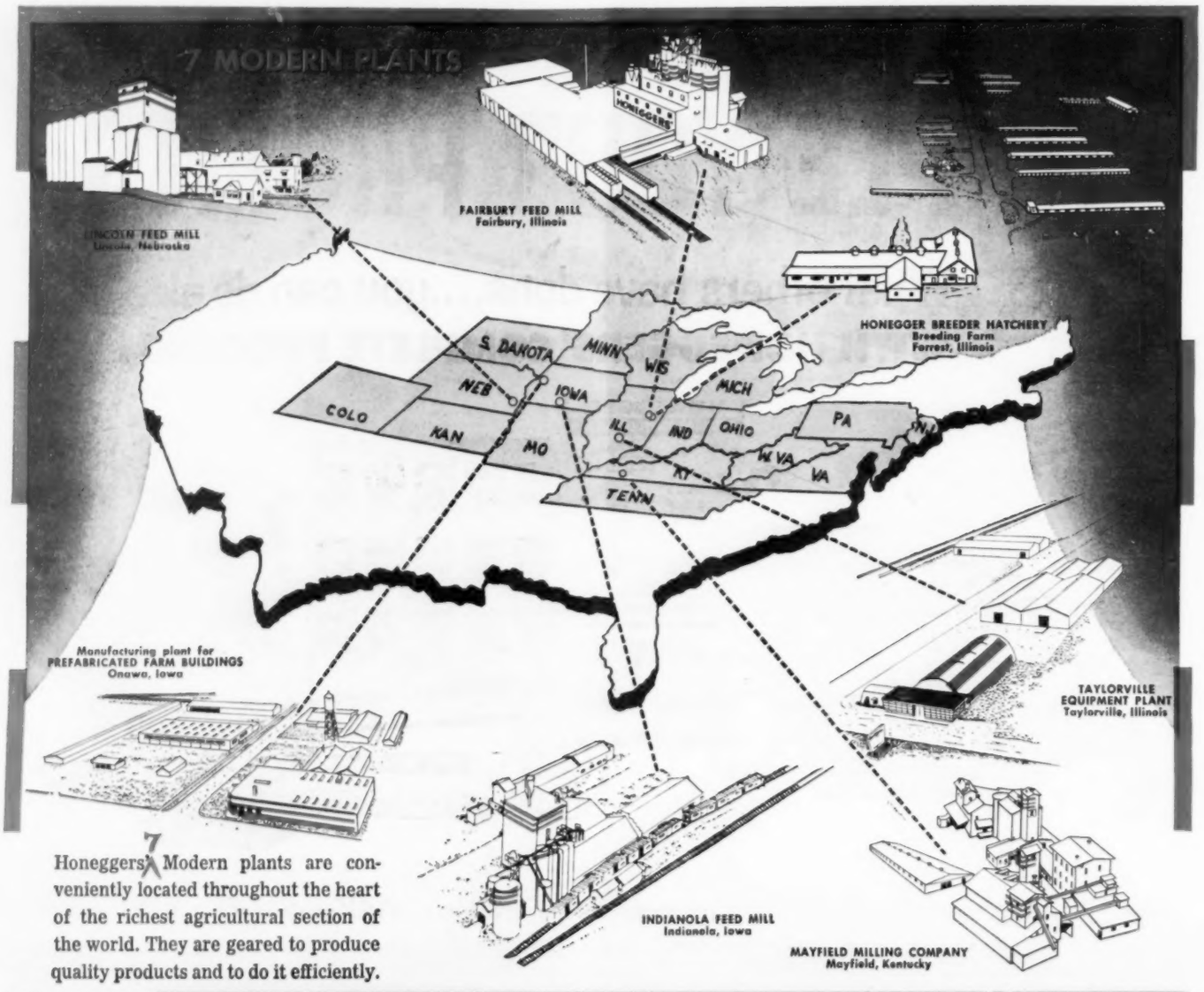


SINGLE SOURCE OF SUPPLY gives Honegger dealers over 190 products sold by no one else in his territory. Combination shipments reduce freight costs, cuts dealer's equipment inventory because you are only a few days away from Honeggers' warehouse.

HONEGGER RESEARCH FARM has attracted over 40,000 visitors in past ten years. Practical research and convincing demonstrations here keep dealers and customers sold on Honegger know-how, and produce more dealer profits!

PATRONAGE DIVIDEND gifts make real boosters of farm wives and kids. Coupon-saving customers get valuable premiums direct from Honeggers without bother or expense on dealer's part. Result: terrific customer loyalty . . . REPEAT PROFITS!

BULK FEED SERVICE at Honeggers' employs king-sized fleet of hopper cars and modern bulk trucks. Honeggers' bulk farm bins are profit-makers that help dealers sew up business.



Honeggers' 7 Modern plants are conveniently located throughout the heart of the richest agricultural section of the world. They are geared to produce quality products and to do it efficiently.

CONSISTENT, HEAVY IMPACT advertising sells for you in your customer's farm press.

Here is another plus factor for Honegger Dealers. Full page and double page ads run in color in leading farm publications. These ads keep customers constantly aware of the ever increasing services and products available at their nearby Honegger Dealers.

What Honeggers' Complete Program can do for your customers it can also do for you. When you add up all the plus factors of the Honegger Complete Program, the road leads to greater sales and greater profits for farmers and for dealers.

No other company in America has so much to offer!

Poultry Inspection Discussed During Regional Meeting

SALISBURY, MD.—"Management may be the lagging element in the poultry industry," Dr. William E. McDaniel, chairman of the department of agricultural economics at the University of Delaware, told about 200 feed dealers, poultry growers, processors and industry representatives at the recent regional poultry meeting in Salisbury.

Many firms expanded very rapidly in a short time, and as margins between costs and prices become tighter, management will become a more and more important element, Mr. McDaniel said. He mentioned several factors about broiler prices that broiler men will have to consider in the future.

He said that as production of broilers levels off, production cycles of red meats will have a more noticeable effect on broiler prices. Growers will have to vary their production with these price variations due to red meat production, or expect to take below-cost prices during times of high red meat production.

He pointed out that consumption of chicken per person has not increased very much. Broilers have merely taken over much of the market which used to be filled by farm chickens other than broilers.

Mr. McDaniel told the broilermen that they can improve their competitive position by lowering the cost of production. He suggested doing a better job of disease control, reducing shipping costs and improving management and efficiency all around. The industry should strive to develop its management, Mr. McDaniel said.

Poultry Inspection

A panel discussion on mandatory poultry inspection opened the meeting. Panel members were Dr. Roy Willey, U.S. Department of Agriculture; Bernard Bogage, processor, Snow Hill, Md.; Dr. A. T. Ringrose, extension service poultryman at Virginia Polytechnic Institute, and Edward Covell, broiler grower, Denton, Md.

Mr. Willey said there are now 414 poultry processing plants under the new inspection program. The quality of inspection is rapidly improving, and the bugs and lack of uniformity of inspection are pretty well ironed out of the system now.

Mr. Bogage, speaking from the processor viewpoint, said the new inspection system has spurred the desire for research. Processors want more done to improve processing efficiency and management.

He said, "Most of the impact of mandatory inspection is behind us. A period of tolerance is still required, but things will soon smooth themselves out."

The act should put an end to conflicting regulations from city to city and "should bury the last ghost of sensational newspaper and magazine articles about poor quality chickens," Mr. Bogage said.

Dr. Ringrose explained how the condemned chickens were being handled in Virginia. He said birds were being sorted into two groups—diseased birds and poorly-slaughtered birds. The processor takes the loss for the birds condemned because of processor error, and the grower takes the loss for the others.

Edward Covell ended the panel discussion mentioning the growers' complaints about the high number of culls being left in the growers' poultry houses since the new system went into effect. He said, "We are in a lot of trouble on Delmarva, and we should sit down and work out our problems."

The regional poultry meeting is held in Maryland late in the winter, and in Delaware each fall.

ANOTHER FEED MILL BY *Hogenson* . . .

AMES RELIABLE FEEDS, *AMES, IOWA*

This all-concrete, push-button feed mill was designed and built for Ames Reliable Feeds, Ames, Iowa. Equipment makes it possible for one man at a central board—and a very few men tending the machines—to produce each particular feed without handling. Charlie Barr (inset) is president of Ames Reliable Feeds. Let us put our experience in design and construction at your disposal.

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★ WAREHOUSES

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Restricted Feeding Good for Leghorn Pullets in One-Year Test

● C. H. Thomas and R. C. Albritton, Mississippi Farm Research, Vol. 22, No. 2, February, 1959, pp. 1 and 7.

ABSTRACT

Nine hundred single comb White Leghorn pullets were started in February, 1957, and full fed a starter ration to eight weeks of age. When eight weeks of age, all were weighed, with 275 of the group randomly assigned to each of three groups and placed on range at ten weeks of age. All groups were fed growing mash from eight weeks of age, and oats from 10 weeks of age to housing. Pullets in group 1 were full-fed; group 2 was fed 75% of the amount consumed by group 1 the previous week, and group 3 was fed 50% of the amount consumed by group 1 the previous week.

At 20 weeks of age the birds were weighed and 100 birds were randomly selected from each group, placed in laying house and fed laying mash. The remaining birds in each of the initial groups were left on range until they either reached 5% production or 26 weeks of age. From these, 100 pullets were randomly selected from each sub-group, housed and fed laying mash.

Ten per cent of each group was weighed when 50% production was reached, and all birds were weighed at 12 and 18 months of age. All groups were given a full laying year (365 days) after reaching 5% production. Approximately 14 hours of daily lighting was used.

Generally, mortality was higher for restricted birds for the period from eight weeks to housing, but the difference was very much greater for those birds fed at the 50% level than those at the 75% level. With exception of an unexplainable high loss due to cannibalism in those 75% level birds housed at 20 weeks of age, mortality was somewhat less in restricted-fed birds from time of housing to the end of the laying period.

The restricted fed birds were considerably lighter in body weight than the full-fed birds at 20 weeks of age (75% level, 0.37 lb.; 50%, 1 lb.). At 18 months of age those birds raised by the 75% feed level were equivalent in weight to those which had been full fed, while those raised by the 50% restriction regime were still somewhat lighter (approximately one fourth pound).

Feeding birds at the 75% level until 20 weeks of age from eight weeks was not successful in causing any delay of sexual maturity as measured by age to first egg. However, feeding the same level until 24 weeks of age delayed sexual maturity 28 days. When the 50% restriction method was followed until 20 weeks of age, delay was 12 days; while when practiced until 24 weeks of age, delay was 34 days.

All methods of restriction, with the exception of those birds fed at the 75% level until 20 weeks of age, laid more eggs from age at 5% production until the end of the laying period than those birds which were full fed. Also, those birds restricted until 26 weeks of age tended to lay fewer small eggs. Restricting birds at the 75% level until 20 weeks of age and then full feeding them was not a desirable practice because of the high percentage of small and peewee eggs obtained, and because these birds laid the least number of total eggs.

Although the differences between the pounds of feed required to produce a dozen eggs after the birds reached 5% production are not very large, there was a trend for the birds on restricted growing programs to be more efficient, with the exception of the inefficient ones raised on the 75% feed level until 20 weeks of age. Net labor income per 100 birds housed after including all costs (including growing) followed similar trends, with the greatest labor income shown by those birds fed at the 75% level until 26 weeks of age.

COMMENT

It is now a well established commercial practice to restrict the feed when growing out broiler breeder

WHAT IS THE *active particle* CONTENT OF YOUR VITAMIN A SOURCE?

Many vitamin A products offered to feed manufacturers at a potency level of 30,000 U.S.P. units per gram or less are simply diluted forms of much higher potency concentrates. Usually beadlets of 250,000 to 500,000 U.S.P. units per gram are mixed with a suitable quantity of filler to obtain the desired potency.

Micratized Vitamin A, 30,000 U.S.P. units per gram, is dramatically different—and in a way that is of key importance to you and your customers. Instead of preparing a high-potency beadlet and then diluting it down with filler, Nopco follows the more costly but nutritionally sounder procedure of building to potency, literally *from the ground up.* The only inactive diluent present is included to guarantee the free-flowing properties of the product. The result is a concentrate in which virtually *every particle is vitamin-A-active.* You thus have assurance of complete dispersion in your feeds and uniform nutrition for the animal.

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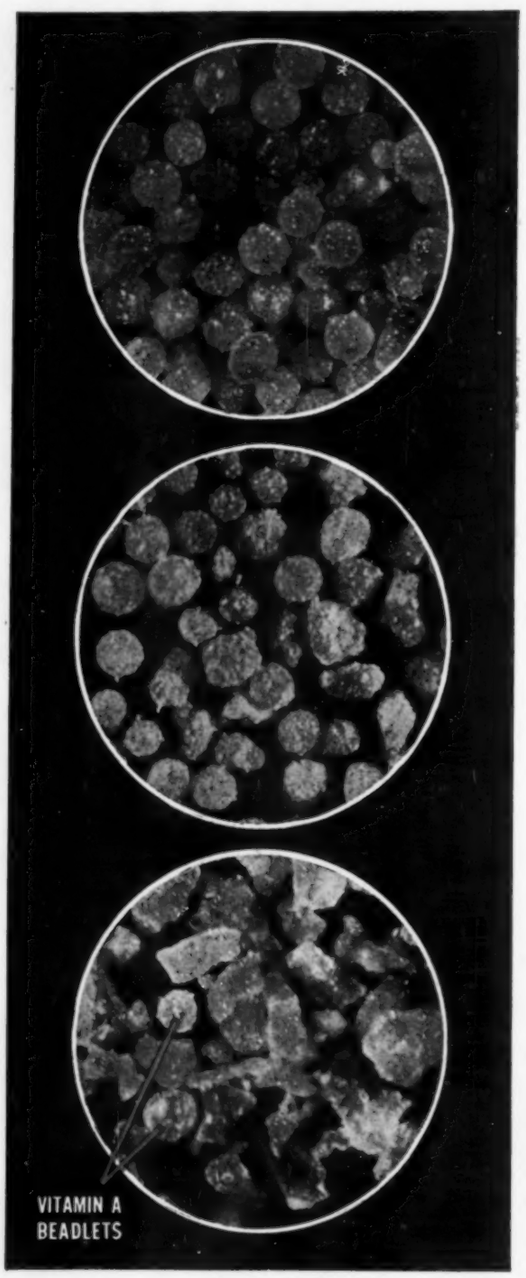

THREE PHOTOMICROGRAPHS OF VITAMIN A PRODUCTS

Top: Micratized Vitamin A, Nopcay® Type III. Spherical beadlets are A-active particles. Note that *all* particles in this product are A-active.

Center: Micratized Vitamin A, Nopcay Type V. Note that almost all particles are A-active. Occasional non-spherical particles are diluent, and included to assure free-flowing properties of product.

Bottom: A typical competitive product. Only two spherical A-active beadlets surrounded by non-active filler.

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DR. G. F. HEUSER
Director
Stonemo Poultry Research Farm

A career poultryman, college professor, author and editor, Dr. Heuser has been widely acclaimed for his work, his research, and contributions to advances in poultry science.

Dr. Heuser was the third person in the U.S. to receive a Ph.D. in Poultry Science (Cornell, 1918), and for 35 years was Professor of Poultry Husbandry at Cornell University. He is a former editor of both Poultry Science and World Poultry Science Journal.

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An educational 25 minute color 16 mm. film has been prepared by the Stone Mountain Grit Company. You will see how granite is mined, crushed, and distributed as granite grit. You will visit the Stonemo Poultry Research Farm, and see firsthand how granite grit helps increase egg and poultry meat production. This film will be lent at no cost to responsible groups. When writing, please use your letterhead and indicate a preference of several dates.

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STONE MOUNTAIN GRIT COMPANY, INC.
Lithonia, Georgia

Have You Been Asking These Questions About Granite Grit ?

Question: **What is the chief function of grit?**

Dr. Heuser: The chief function of grit is to pulverize feed and other materials which the bird eats. This is done in the gizzard. It is especially important that feeds and materials of vegetable nature—grains and their by-products and grasses—be broken down since the valuable nutrients are locked in with fiber or cellulose coatings which are not digested by enzymes and which must be broken down mechanically.

Feeds of animal origin can be acted upon directly chemically.

Question: **Does that mean that the birds receiving all mesh rations do not need grit?**

Dr. Heuser: Not at all. It is true that feed efficiency is greater when whole grain is fed, but even all mash rations as fed are not fine enough to get the most nourishment out of the particles. Grit thus helps to reduce the feed bill.

Another important reason for feeding grit is the grinding of such materials as litter, feathers, dried grass, and other bulky or fibrous substances which the birds consume. These must be reduced so that they will pass through the digestive tract and not cause hindrance to the digestive processes or even impaction.

Question: **Can any kind of grinding agent be used as grit?**

Dr. Heuser: Any material will have some grinding action, but harder substances, such as insoluble gray granite grit with black specks of mica, are more efficient and last longer.

Question: **What effect does the feeding of grit have upon the gizzard development?**

Dr. Heuser: A number of reports as well as observation indicate that birds receiving grit have larger gizzards—sometimes as much as 50% larger—which have firmer muscles and are generally more healthy looking. The no-grit gizzard muscles are flabby and have a dull color. The linings of the grit-fed gizzards have been reported to be thicker, tougher and free from gizzard erosion.

Question: **Suppose, Dr. Heuser, that a bird did eat too much grit, will an excess amount of grit do any harm?**

Dr. Heuser: No. Excesses will be very quickly passed from the gizzard and excreted.

Do you have a question regarding the feeding of granite grit? If you do, please address it to Dr. G. F. Heuser, c/o Stonemo Poultry Research Farm, Lithonia, Georgia.

Birdseye view of the Stone Mountain Grit Company's Poultry Research Farm, Lithonia, Georgia. Here constant feeding experiments are being made by Nutritionists and Research Workers to help you get Maximum Nutritional Values from every ton of poultry feed you buy.

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TABLE 1

	Feed per 100 birds (alive during week) —Restricted until 20 weeks— actual consumption			—Restricted until 26 weeks— actual consumption		
	Mash	Oats	Total	Mash	Oats	Total
	%	%	%	%	%	%
75% feed level	75.3	84.0	77.5	85.5	91.0	86.7
50% feed level	53.7	58.5	55.0	59.6	65.9	61.0

replacement birds. The early pioneering work by the University of New Hampshire and by certain large commercial breeding farms has been amply confirmed by more recent reports from many universities working with heavy breed birds. (Among the more recent are: Singsen et al., 1958; Reid et al., 1958; Slinger et al., 1957). The effects are well known and often include: Delayed sexual maturity; increased average egg size during early part of laying period; lighter initial body weight, which is often made up in the laying house during the hen year; reduced mortality, and lowered growing costs. Although all experiments do not show identical results, the practice makes good commercial sense to broiler breeder producers and has gained wide acceptance.

The same workers have recently demonstrated that controlled (restricted) feeding of a high-energy laying diet may be a very desirable practice with heavy breeds when compared with the ad lib feeding of either medium or high energy rations. Production apparently does not suffer, mortality is reduced and costs per dozen eggs produced are lowered.

The question of whether or not to restrict the feed for growing out light breeds of birds, such as Leghorns, and various related crosses is under hot dispute at the present time. Many of the experienced large breeders definitely recommend some form of restricted growing program to purchasers of their chicks. On the other hand, equally experienced large breeders are dead set against it.

Research work on the feeding of light birds by the restricted method is not as voluminous as with the heavy breeds. Also, the results so far reported are somewhat conflicting. For example, three years' research by Barnett and Morgan of Clemson (S.C.) College showed that when White Leghorns were restricted to two hours' feeding of growing mash in the morning and 30 minutes of oats in the afternoon while on grass range, they were somewhat lighter (0.2-0.4 lb.) than full-fed range-reared birds or full-fed, confinement-reared birds at 20 weeks of age. But at 40 weeks of age, the restricted birds were as large or larger than the full-fed ones. The range-reared full-fed birds consumed slightly more feed per bird in two of the three years than the full-fed, confined birds, with the restricted birds eating less total feed, but slightly more oats. The restricted birds required eight more days to reach sexual maturity than those raised on range and full fed, and 19 days longer than the confined, full-fed birds.

The restricted birds produced larger eggs during the earlier part of the laying period, which had largely disappeared by 25 weeks of age. Range rearing of birds produced 3 to 6% more egg production. These results are very similar in many respects to those secured by Dr. Bruin, Quaker Oats Co. (1958) in three-year trials with laying strain pullets and to those reported above by the Mississippi workers.

Dr. Creek (1958), University of Maryland, has reported that feed restriction is of little or no value when practiced on Leghorn type birds. Apparently, the variance in results may be explained by the current Mississippi work, since restricting birds only until 20 weeks of age did not give good results, while restricting until 26 weeks was the best of all when practiced at the 75% feed level. Other workers have reported that different strains respond similarly when exposed to the same conditions (Stephenson, 1958), upsetting a commonly held idea that strains respond differently.

It should be pointed out in the current Mississippi work that the results are based on only one year's work and are preliminary. Also, the degree of restriction varied somewhat from the levels which were reported—namely 50% and 25% restriction. Actually, based on the actual feed consumption per 100 birds alive during the week, feed restriction was as shown in Table 1, expressed as percentage of that consumed by full-fed birds.

The reason for the variance is because of the mortality between the various methods and the method of feeding (limiting restricted birds to a percentage of previous week's consumption by full-fed birds).

SMOG BLAMED FOR RED HEN'S GREEN EGGS

LOS ANGELES — Smog has been blamed for many things here—and now it's even been tabbed as the reason why a red hen laid green eggs. Charles Salverson, poultry specialist, University of California Agricultural Extension Service, informed the hen's owner, Mrs. C. Martine, that the discoloration was caused by the reaction of oxidants in the air on the moist shell of the newly laid eggs.

USE OF FATS IN FEED IS GROWING

...with the Allied Industry Associa... ...committee regarding the tentative purchasing guides under consideration. With their approval, the following purchasing guides were accepted:

ANIMAL FAT PURCHASING GUIDE

Prepared by the Nutrition Council of the American Feed Manufacturers Association.

Foreword: This purchasing guide is presented to supply a uniform basis for the preparation of the procurement specifications by each purchasing agent. Since conditions and requirements vary greatly in different areas, this guide is not intended to be rigidly followed. Quality limitations may not always be optimal. The purchasing guides will be revised as improved methods of judging quality are available.

Definition: (Reference — Official Publication of the Association of American Feed Control Officials.)
Animal fat is a mixture of fats of a quality suitable for feeding obtained from animal tissues in the commercial processes of rendering. If the product bears a name descriptive of its kind or origin as for example, "lard," "tallow," "beef fat," it must correspond thereto.

Analysis: (Basis American Oil Chemists' Society, current edition unless specified.)

1. Stability: AOM Test (Active Oxygen Method)
20 hours AOM stability is the minimum acceptable and is approximately equivalent to 320 days of storage life.
2. Purity: M.I.U. (Moisture, Impurities, Unsaponifiables)
The M.I.U. is basis 2% unless otherwise specified. Excessive moisture causes rapid deterioration and must be kept out of animal fat. Higher percentages of impurities proportionately reduce caloric values.
3. Antioxidant:
Only approved antioxidants shall be used, and in sufficient quantity to meet minimum stability requirements.
4. Free Fatty Acid: (FFA)
Free fatty acid varies but for feeding purposes, animal fats having a free fatty acid not exceeding 15% are usually selected.

Physical Properties:

1. Color:
Color is an indication of grade, but has little or no effect on feeding quality.
2. Titer: (Approximate Melting Point)
Titer is the solidification point of the fatty acids measured in degrees centigrade. Fat having a titer of 40° C. and above is called tallow. Fat having a titer below 40° C. is called grease.

Make sure the fats you buy meet new AFMA "specs" on stability. Insist on Tenox-stabilized fats for your feed.

With more and more feed manufacturers recognizing the nutritional advantage of incorporating animal fats in their feed, consumption of these fats is growing rapidly. But with this increased consumption, there also has grown the necessity for consistently obtaining fats of adequate stability.

Recognizing this problem, the American Feed Manufacturers Association has suggested new standards of quality to guide purchasing agents in buying stabilized animal fats.

By these new standards, the *minimum* acceptable fat stability is set at 20 hours by AOM test. The trend among leading renderers, however, is to produce a 40 hour AOM fat. By so doing, these renderers provide maximum assurance the fats they sell will have sufficient stability, even under adverse conditions.

Not all antioxidants can provide even 20 hour stability under all conditions. And, with the wide variety of inedible fats and meat scraps being processed today, it is to your advantage to make sure the fats you buy are protected by the proper antioxidant.

Tenox antioxidants give you the safeguard you need.

In the first place, the Eastman line of Tenox antioxidants offers the renderer the widest choice available. From this broad range he can consider and select the antioxidant or antioxidant formulation best suited to the particular fat he is handling and to his processing conditions.

Secondly, Eastman is well-qualified to suggest not only the most effective antioxidant formulation, but also the most efficient method of adding it. This is because Eastman has years of experience in the manufacture and use of antioxidants, and in evaluating their performance. Eastman makes all the major types of antioxidants—has no axe to grind in favor of any one.

So insist that your renderer supply fats stabilized with Tenox antioxidants, backed by Eastman technical service. It's your best assurance the feeds you sell will have long-lasting protection against rancidity. EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

Tenox

Eastman antioxidants for animal fats

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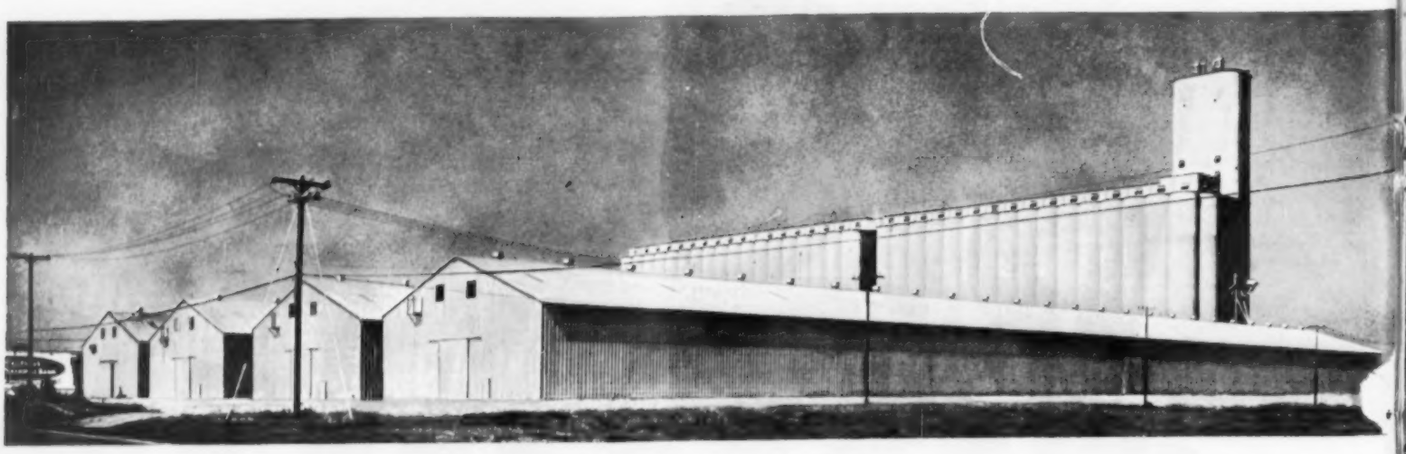
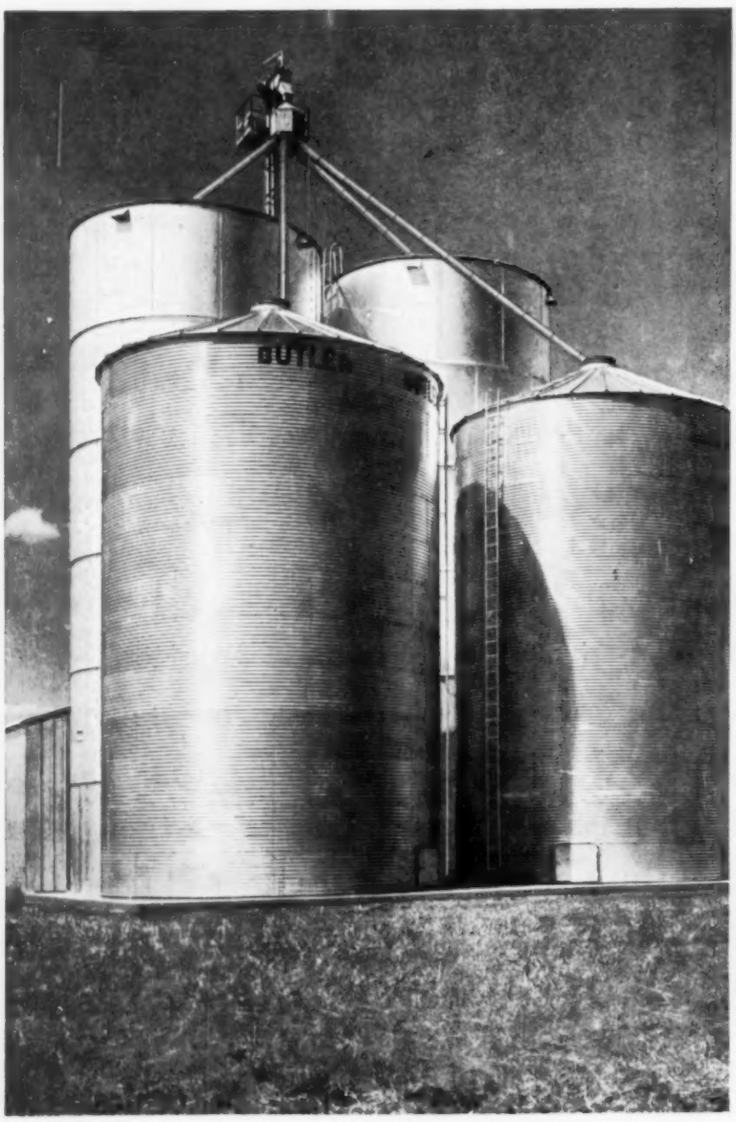
This year's carry-over is expected to reach an all-time high...and, there still isn't enough storage space available in many areas.
Whether you're expanding a small country elevator, planning a new terminal or just need emergency storage, Butler—the company that has provided more storage structures for more bushels of grain and tons of feed than any other manufacturer—has the buildings, the bins, the bulk systems and the bolted tanks to fit your storage needs.

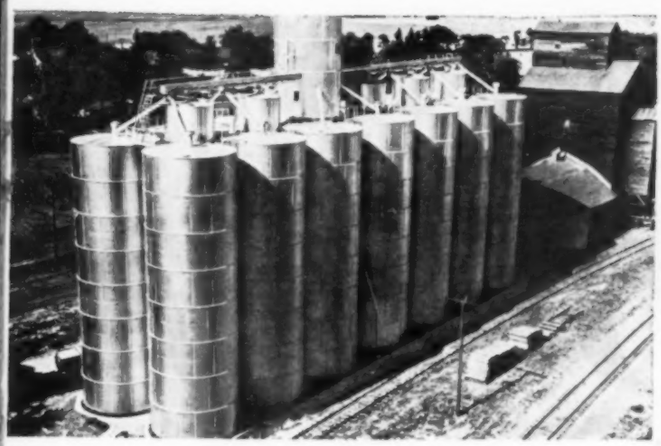
FOR BIG NEWS SEE NEXT 8 PAGES

Eastman antioxidants for animal fats
man Kodak Company, KINGSPORT, TENNESSEE.

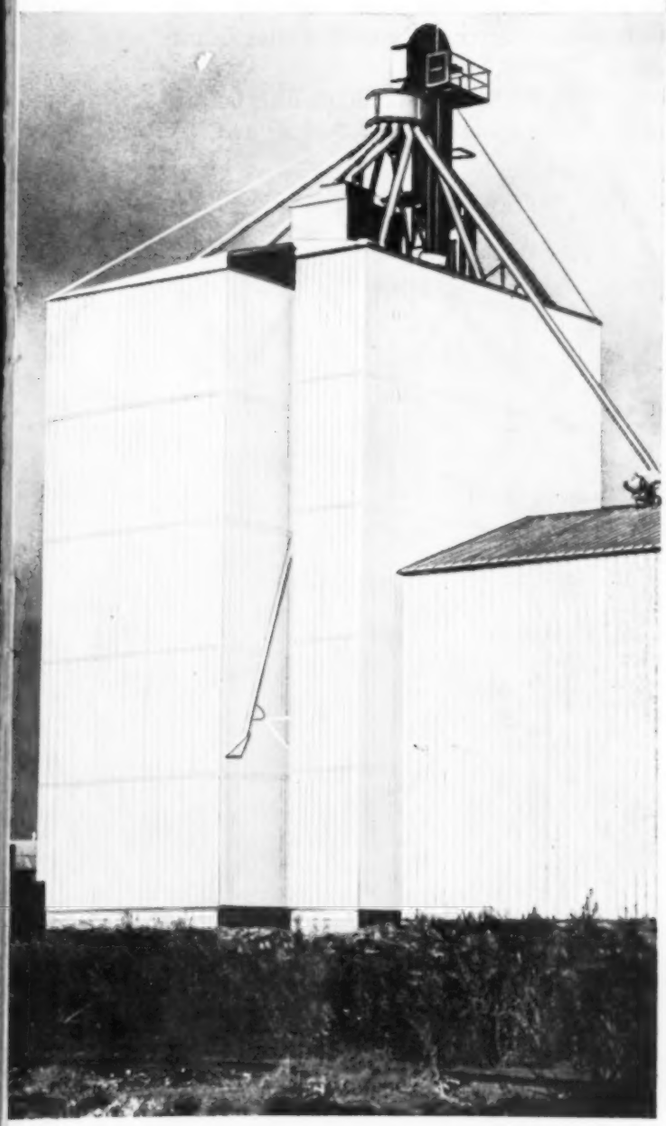


Name your storage problem has the structures and





...Butler know-how...



to solve it at lowest cost

Grain or feed—flat or vertical—five tons or a million bushels—Butler has a storage structure that will exactly fit your requirements. You can select from the world's most complete line of steel structures—structures that are quality-fabricated by Butler, and job-engineered by local Butler storage experts. You select from a line that includes the most advanced developments in grain and feed storage, drying and handling equipment. Butler Square Tanks, for example, have brought a new modern look, lower maintenance, and greater safety to country elevator construction and feed mill storage. New "Giant" bin models have cut costs per bushel for individual storage structures to new lows.

When you consult Butler, you deal with the company that has provided more structures for more bushels of grain, and tons of feed than any other manufacturer. This record has been compiled only because thousands of grain and feed men found Butler to be their best buy. Let us show you why a Butler structure is your best buy. Write direct.

BUTLER®

BUTLER MANUFACTURING COMPANY

7402 East 13th Street, Kansas City 26, Missouri

Manufacturers of Equipment for Farming, Dry Cleaning, Oil Production and Transportation, Outdoor Advertising • Metal Buildings • Contract Mfg.

Factories at Kansas City, Mo. • Minneapolis, Minn. • Galesburg, Ill. Richmond, Calif. • Birmingham, Ala. • Houston, Tex. • Burlington, Ont., Can.

NOW...THE BIGGEST AND LOWEST-

new Butler

Giants in size – When we say Butler Giant Bins are the biggest . . . we mean BIGGEST. The largest Giant Bin isn't 24 feet . . . isn't 27 feet, but a giant 36 feet in diameter. And, it stands 40 feet high at the eave.

As for capacity! This Giant Bin holds over 36,000 bushels (see table below). That's twice the volume of other so-called big bins.

Giants in economy – Most important of all, Butler Giant Bins give you weathertight, firesafe storage at a cost per bushel no other individual storage bin can match. Easy to fumigate . . . easy to aerate . . . easy to clean and maintain . . . Butler Giant Bins cost less to operate too, easily equipped with automatic handling equipment.

Giants in utility – Butler Giant Bins make it easy to segregate, condition and store different types and grades of grain. Available in 11 sizes . . . there's a Butler Giant Bin to fit most any land or volume problem you might have. And, thanks to bolt-together construction, Butler Giant Bins can be relocated easily to meet changing storage needs.

If you need emergency or annex storage . . . get the full story on Butler Giant Bins before you invest a single dollar. For full details, contact your nearby Butler Dealer, Builder or Contractor. Or, write directly to us.

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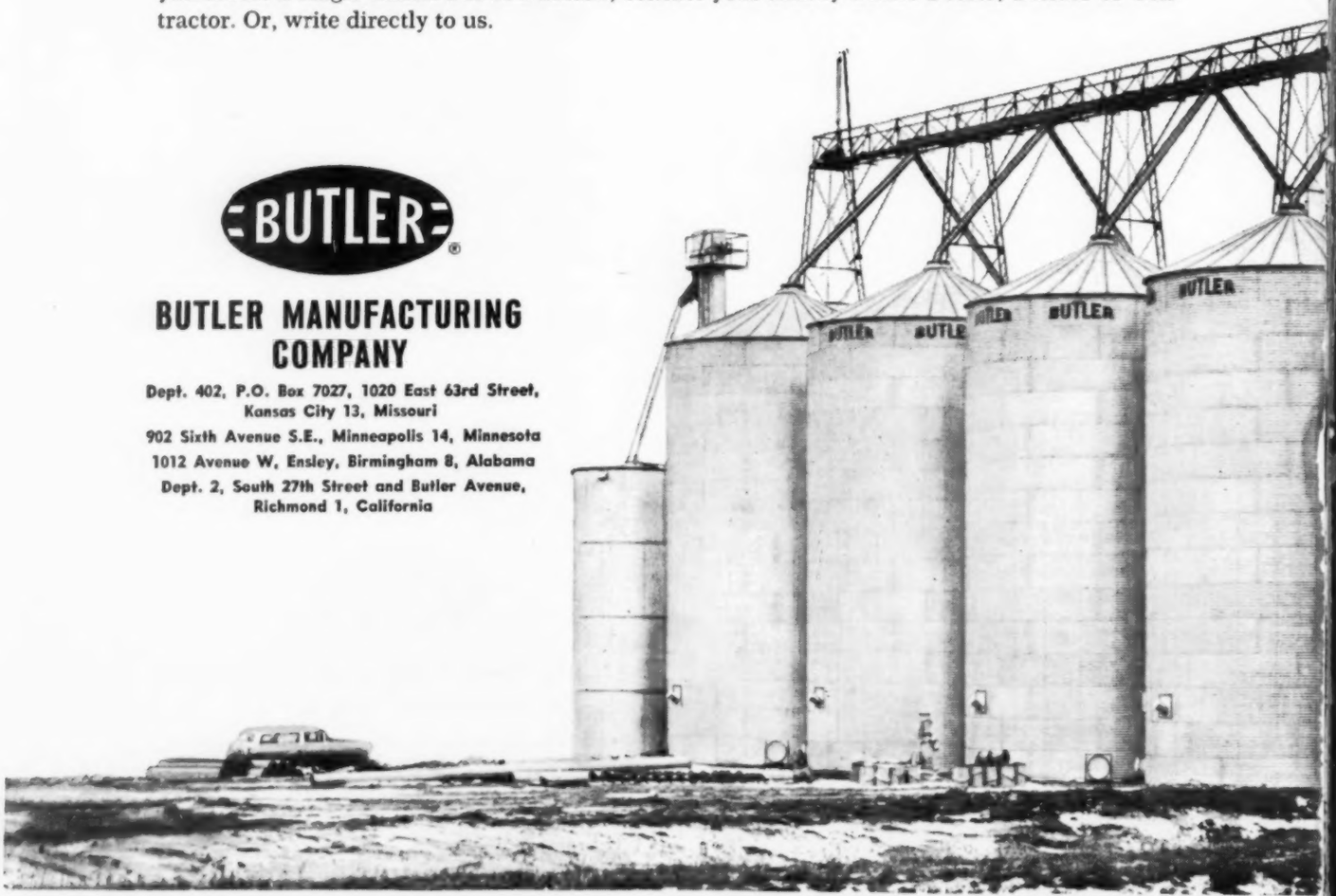
Dept. 402, P.O. Box 7027, 1020 East 63rd Street, Kansas City 13, Missouri

902 Sixth Avenue S.E., Minneapolis 14, Minnesota

1012 Avenue W, Ensley, Birmingham 8, Alabama

Dept. 2, South 27th Street and Butler Avenue, Richmond 1, California

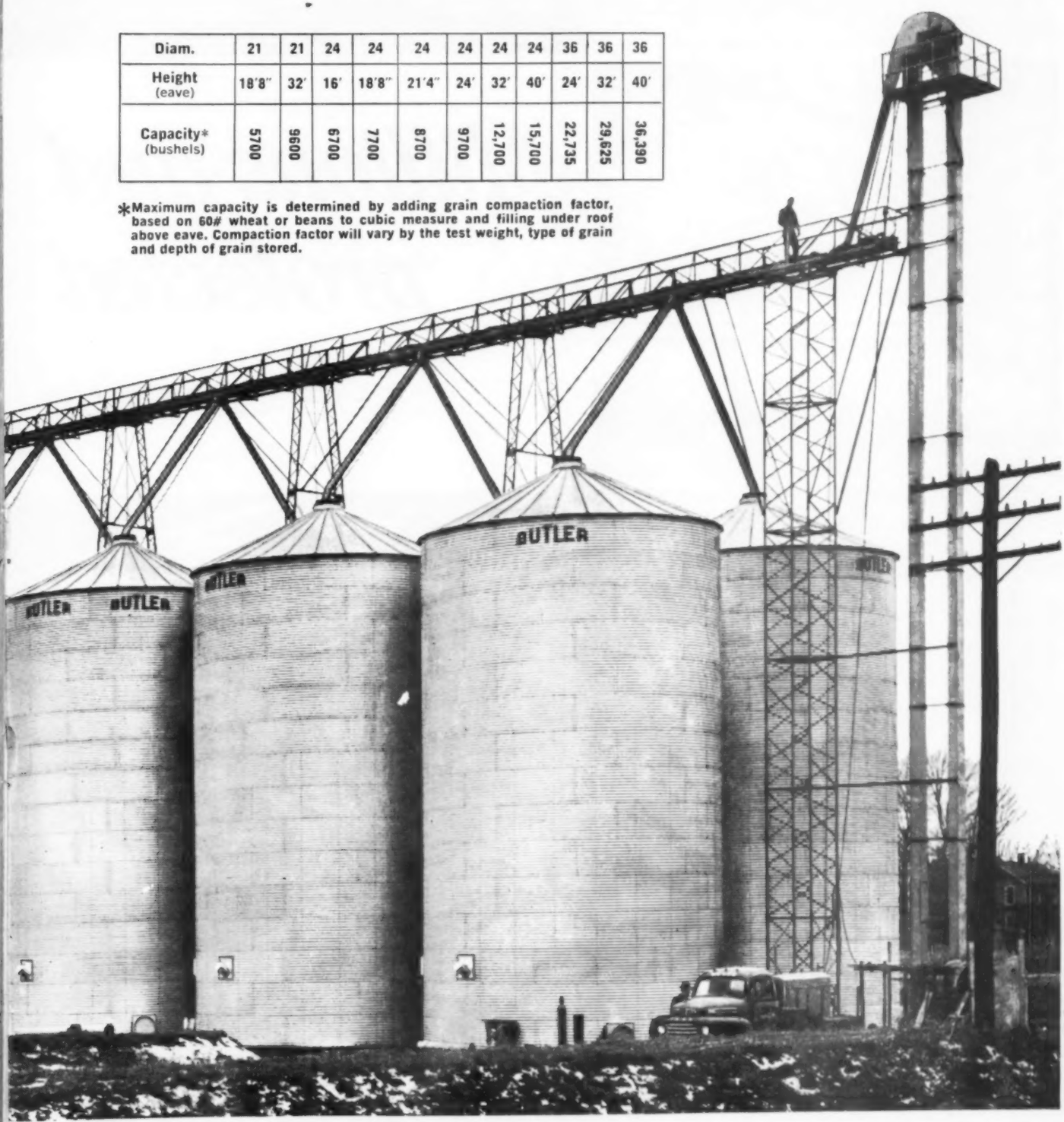


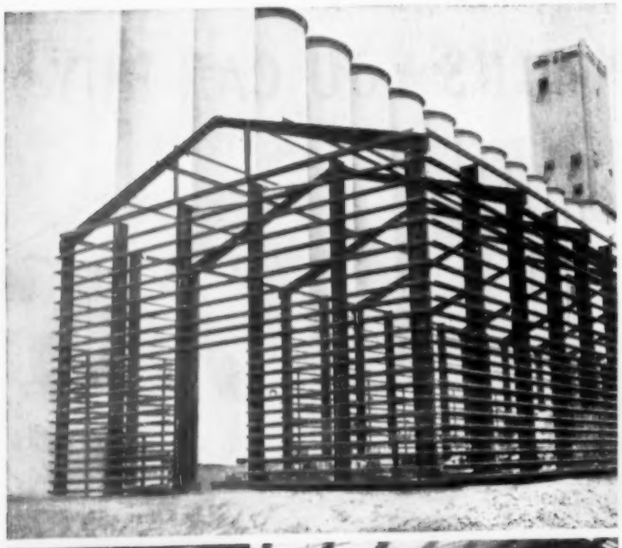
COST PER BUSHEL GRAIN BINS YOU CAN BUY

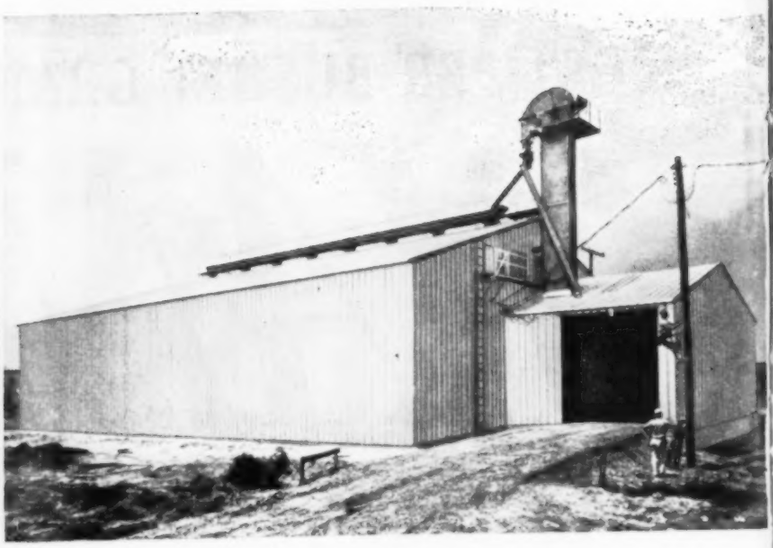
GIANT bins

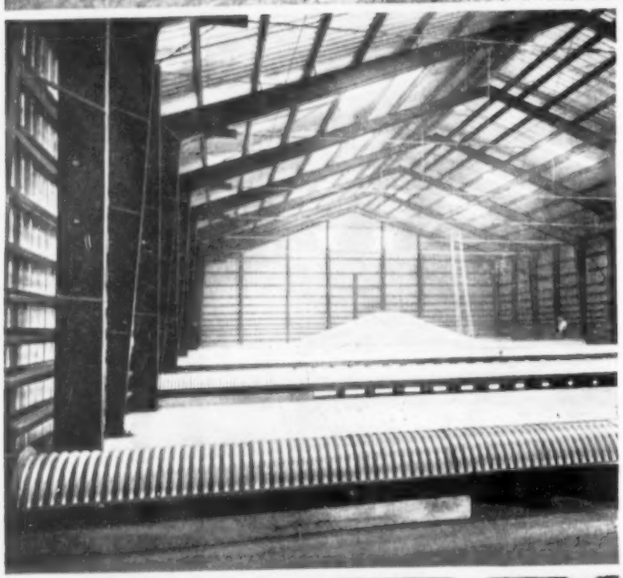
Diam.	21	21	24	24	24	24	24	24	36	36	36
Height (eave)	18'8"	32'	16'	18'8"	21'4"	24'	32'	40'	24'	32'	40'
Capacity* (bushels)	5700	9600	6700	7700	8700	9700	12,700	15,700	22,735	29,625	36,390

*Maximum capacity is determined by adding grain compaction factor, based on 60# wheat or beans to cubic measure and filling under roof above eave. Compaction factor will vary by the test weight, type of grain and depth of grain stored.



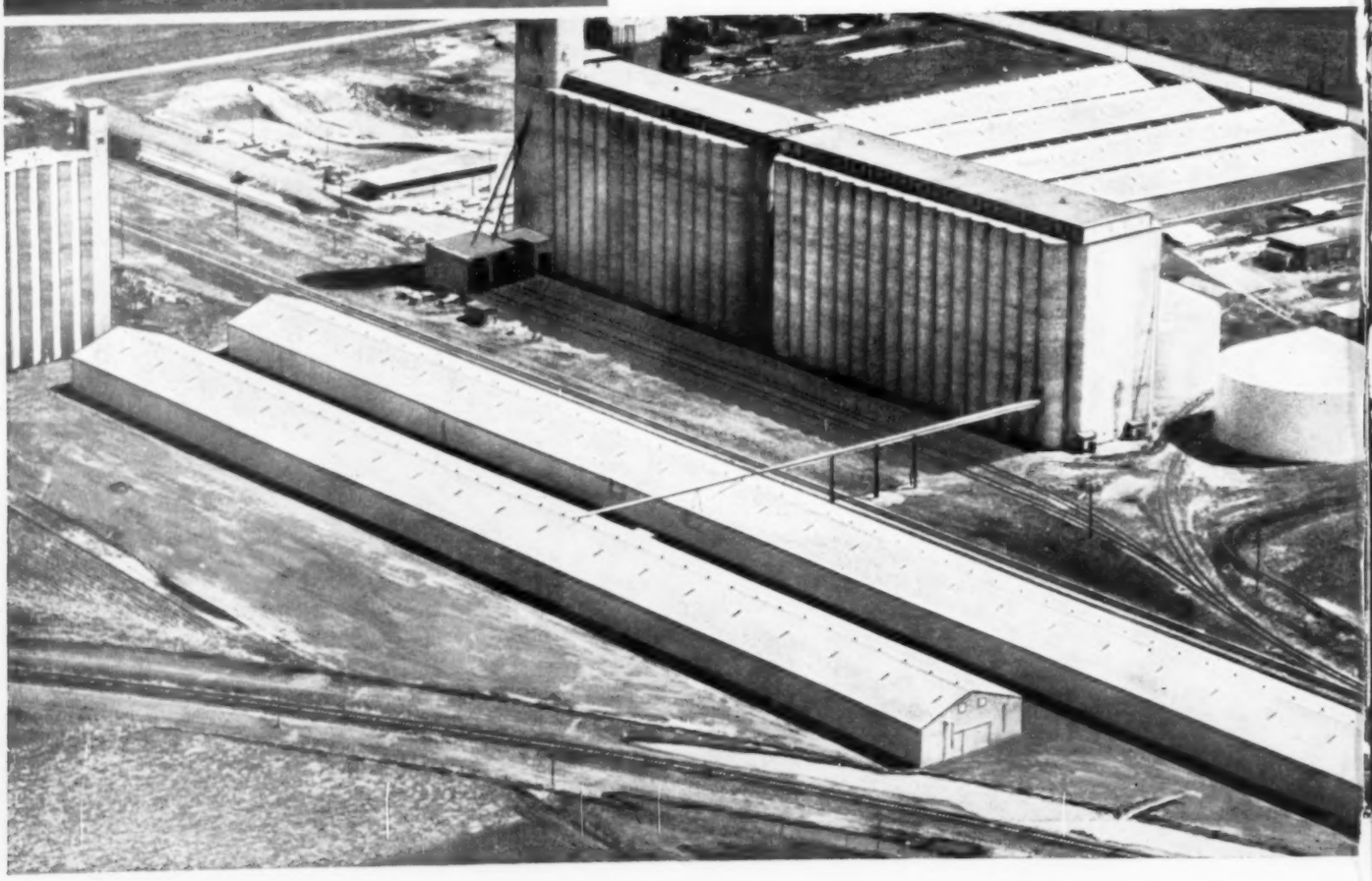


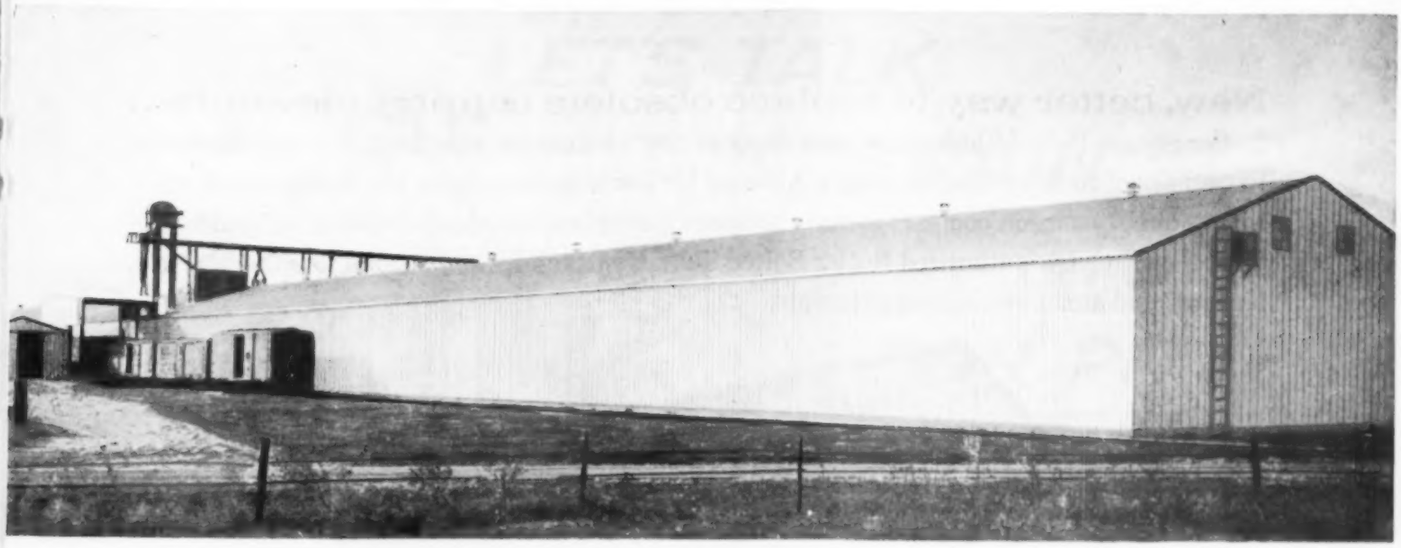




Millions and protected

...THE LOWEST





millions of bushels by Butler buildings

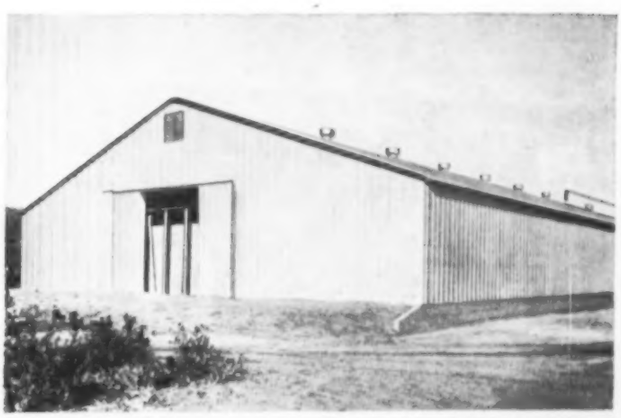
-COST SAFE STORAGE

Take a look at what the big and successful operators are doing before you invest in any flat storage building. You'll see that more bushels of grain are stored in Butler buildings than in any other type of flat storage.

The reason . . . money! Operators know—the grade that goes in is the grade that comes out when you store it in a Butler. Precision built buildings . . . mass-produced for economy . . . and engineered specifically for flat storage, have earned Butler the reputation as the manufacturer of the lowest-cost *safe* grain storage buildings obtainable.

And Butler offers you the right size building for *both* your volume and the available ground. You have a greater selection of widths, wall heights up to thirty feet, scientifically matched conditioning and aeration equipment.

Whether you need 10,000 or 10,000,000 bushels of capacity, Butler's tested, proven buildings will guard your grain, guard your profits best. For full details, contact your nearby Butler Builder. Or write directly to the address below.



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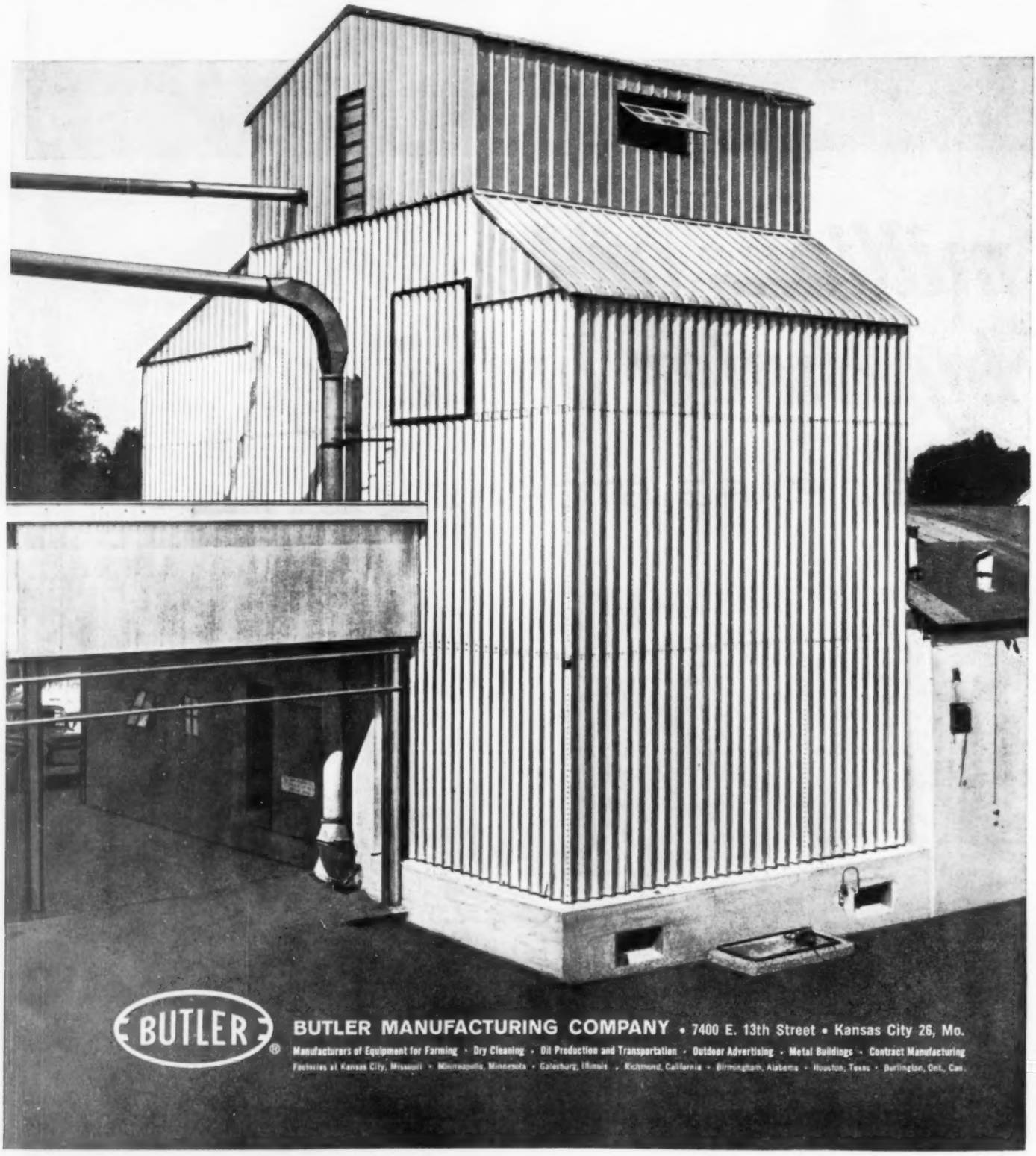
Factories at Kansas City, Mo. • Minneapolis, Minn. • Galesburg, Ill. Richmond, Calif. • Birmingham, Ala. • Houston, Tex. • Burlington, Ont., Can.

New, better way to replace obsolete country elevators...

Butler Square Bolted Tanks bring new space saving advantages, new fire safety and durability to traditional country elevator design. All-steel for low insurance rates, low maintenance costs. Maximum capacity in compact areas – no space lost between tanks. Fabricated by Butler, job-engineered by your authorized Butler Bolted Tank Contractor. Contact him for your elevator, feed mill and annex storage requirements.



BUTLER®

BUTLER MANUFACTURING COMPANY • 7400 E. 13th Street • Kansas City 26, Mo.

Manufacturers of Equipment for Farming • Dry Cleaning • Oil Production and Transportation • Outdoor Advertising • Metal Buildings • Contract Manufacturing

Factories at Kansas City, Missouri • Minneapolis, Minnesota • Galesburg, Illinois • Richmond, California • Birmingham, Alabama • Houston, Texas • Burlington, Ont., Can.

LET'S TALK GRAIN STORAGE FOR PROFITS

Before you invest in grain storage structures, contact your local Butler grain storage expert. Butler's years of experience in grain storage . . . its engineering talent and its mass-production facilities enable him to give you the benefit of the latest developments in feed and grain storage . . . drying and conditioning systems . . . all at the lowest possible costs. And, with the world's largest selection of grain storage structures to choose from . . . you can be sure of getting the installation that best fits your needs.

WRITE TODAY

For full details, call your nearby Butler Dealer, Builder or Contractor, or write today

BUTLER®

BUTLER MANUFACTURING COMPANY

7402 East 13th Street, Kansas City 26, Missouri

Please rush me further information on:

- ☐ Butler's new Giant Bins
- ☐ New Bolted Square Tanks
- ☐ Butler Stor-N-Dry® Systems
- ☐ Butler Flat Storage Buildings
- ☐ Butler Bolted Tanks
- ☐ Bulk-O-Matic Systems

Name_____

Address_____

City_____ State_____

Convention Calendar

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear ahead of the ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

• • •

April 8—Commercial Egg Production Short Course, Georgia Center for Continuing Education, University of Georgia, Athens.

April 17-18—Oklahoma Grain & Feed Dealers Assn., Youngblood Hotel, Enid; sec., E. R. Humphrey, 605 First National Bank Bldg., Enid, Okla.

• • •

April 2-4—Pacific Dairy & Poultry Assn.; Coronado, Cal.; sec., Carl E. Nall, 1304 E. 7th St., Los Angeles.

April 8—Purdue Egg Day; Purdue University, Lafayette, Ind.; sec., David D. Jackson, extension poultryman, Purdue University.

April 12-14—Animal Health Institute, Inc.; Shoreham Hotel, Washington, D.C.; sec., D. L. Bruner, 512 Shops Bldg., Des Moines, Iowa.

April 12-15—National Fisheries Institute; Hotel Commodore, New York City; asst. gen. mgr., Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

April 12-17—Grain Elevator & Processing Superintendents; Multnomah Hotel, Portland, Ore.; sec., Dean M. Clark, 1120 Board of Trade Bldg., Chicago 4, Ill.

April 13-14 — Nebraska Grain & Feed Dealers Assn.; Paxton Hotel, Omaha; sec., Howard W. Elm, Trust Building, Lincoln, Neb.

April 14-15—Poultry and Egg National Board meeting; Edgewater Beach Hotel, Chicago; gen. mgr., Lloyd H. Gell, 8 S. Michigan Ave., Chicago 3, Ill.

April 17—Nebraska Feeders Day, University of Nebraska, Lincoln, Neb.

April 23-25—California Hay, Grain & Feed Dealers Assn.; Fairmont Hotel, San Francisco; sec., John F. Gilmore, Blue Anchor Bldg., Sacramento, Cal.

April 24—Washington Beef Cattle Day; Washington State College, Pullman, Wash.

April 24-25—Joint Convention, Texas dealer and manufacturer groups; Hotel Texas, Ft. Worth—Texas Grain & Feed Dealers Assn.; sec., Ben M. Ferguson, 614 Meacham Bldg., Ft. Worth; Texas Feed Manufacturers Assn., sec., Ben. E. Schmitt, 3421 Park Ridge Blvd., Ft. Worth.

April 24—Indiana Cattle Feeders Day; Purdue University, Lafayette, Ind.; chm., Dr. W. M. Beeson, Department of Animal Science, Purdue University.

April 27-29—American Association of Feed Microscopists; Hotel Lincoln Douglas, Quincy, Ill.; sec., G. M. Barnhart, Missouri Dept. of Agriculture, Jefferson City, Mo.

April 30-May 2—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

May 8-10—Grain Processing Machinery Manufacturers Assn.; Chicago; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

May 10-12 — National Cottonseed Products Assn.; Mark Hopkins and Fairmont Hotels, San Francisco; sec., John F. Moloney, 43 N. Cleveland St., Memphis, Tenn.

May 11-13—American Feed Manufacturers Assn. Convention and National Feed Industry Show; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

May 15-16—Missouri Grain, Feed & Seed Assn.; Hotel Governor, Jefferson City, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

June 1-2—Central Retail Feed Assn.; Hotel Schroeder, Milwaukee; sec., Eldon H. Roesler, 1712 W. St. Paul Ave., Milwaukee, Wis.

June 7-9—Indiana Grain & Feed Dealers Association; Sheraton Hotel, French Lick, Ind.; sec., Fred Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

June 7-9 — Eastern Federation of Feed Merchants, Pocano Manor Inn, Pocano Manor, Pa.; sec., Austin W. Carpenter, Sherburne, N.Y.

June 8-10—Alabama Poultry In-

DYNAFAC

makes the difference...

in your feed sales, too!

Each day, more and more feeders are demanding DYNAFAC PREMIX in their feeds. They want every bit of advantage that modern agricultural science can offer—not just *some* of it!

Regularity of dynafac performance is practically unique. The word is spreading . . . feeder to feeder; success stories are appearing continuously in the farm press and radio; in college reports from all parts of the nation — DYNAFAC PREMIX makes a good feed better!

Feeders have discovered that DYNAFAC PREMIX helps produce beef at new record lows in cost/100 lbs. of gain. They've seen living proof in their own feedlots that DYNAFAC PREMIX gives them better protection, too, against Bloat and Founder. The *new* DYNAFAC PREMIX label lists *results you can expect to get* with dynafac:

SWINE:

1. For promoting growth and feed conversion.
2. For the control of scours of bacterial origin.

CATTLE AND CALVES:

1. For promoting growth, feed conversion, bloom, and on full feed earlier.
2. As an aid in minimizing the occurrence of feed lot bloat due to high consumption of concentrate.
3. As an aid in minimizing the occurrence of feed lot founder due to high consumption of concentrate.

LAMBS:

1. For promoting growth, feed conversion and on full feed earlier.

So, improve your sales position by giving your customers what they want . . . the leading, most talked about feed additive for 1959 . . . DYNAFAC PREMIX!

ARMOUR AND COMPANY, CHICAGO, ILLINOIS

Dynafac Premix is distributed nationally for Armour by the Chemical Department, McKesson & Robbins, Inc.

Use Feedstuffs WANT ADS for RESULTS

PILCH FEMALES

Give More Eggs
More Chicks
More Meat

dustry Assn.; Municipal Auditorium, Birmingham; exec. sec., W. L. Walsh, P.O. Box 567, Montgomery, Ala.

June 9—Northeastern Poultry Producers Council Egg Quality and Grading School; University of Massachusetts, Amherst; mgr., Dr. Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

June 9-10—Association of Southern Feed and Fertilizer Control Officials; Velda Rose Motel, Hot Springs, Ark.; sec., Maurice B. Rowe, Virginia Dept. of Agriculture, 1123 State Office Bldg., Richmond, Va.

June 25-27—Delmarva Chicken Festival, Dover, Del.; Dave Green, 1102 S. State St., Dover, Del.

June 25-27—Canadian Feed Manufacturers Assn.; Bigwin Inn, Lake of Bays, Ontario; N. D. Hogg, Box 66, Station Q, Toronto, Ont.

June 25-27 — Delmarva Chicken Festival; Dover, Delaware; sec., J. Frank Gordy, Delmarva Poultry Industry, Inc., R.F.D. No. 2, Box 47, Georgetown, Del.

July 10-14—Georgia Feed Assn.; General Oglethorpe Hotel, Savannah, Ga.; sec., Will L. Kinard, 3240 Peachtree Rd. Bldg., Atlanta 5, Ga.

July 21-23—American Poultry Congress and Exposition; Kiel Auditorium, St. Louis, Mo.; exec. sec., Don M. Turnbull, American Poultry and Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 3-8—Feed Microscopy Short Course; Texas Agricultural Experiment Station, College Station; chm., E. E. Brown, Asst. State Chemist.

Aug. 4-7 — Poultry Science Assn. (meeting for members and executive committee invited guests only), Iowa State College, Ames; chm., Dr. Robert E. Phillips, poultry department, Iowa State College.

August 7-8—North Carolina Feed Manufacturers Assn.; Ocean Forest Hotel, Myrtle Beach, S.C.; sec.-treas., A. M. Upshaw, Jr., North Carolina Feed Manufacturers Assn., Box 44, Mocksville, N.C.

Sept. 13-14—Grain and Feed Dealers National Assn. (work meeting for directors, committees and members), Minneapolis; exec. vice pres., Alvin E. Oliver, 400 Folger Bldg., Washington 5, D.C.

Sept. 16-18—National Feed Ingredients Assn.; Pick-Congress Hotel, Chicago, Ill.; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 17-18 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Department of Animal Industry.

Sept. 18—College-Feed Industry Conference; Iowa State College, Ames; chm., Prof. Emmit Haynes, Animal Husbandry Dept.

Sept. 23-25 — Feed Production School; Continental Hotel, Kansas City; Lloyd Larson, 20 W. 9th St. Bldg., Kansas City, Mo.

Oct. 6-8 — Northeastern Poultry Producers Exposition; Farm Show Building, Harrisburg, Pa.; sec., Dr. Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

Oct. 7-9—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 14 — Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Irwin Olcott,

(Turn to page 38)

CALENDAR FOR 1959-60

MARCH

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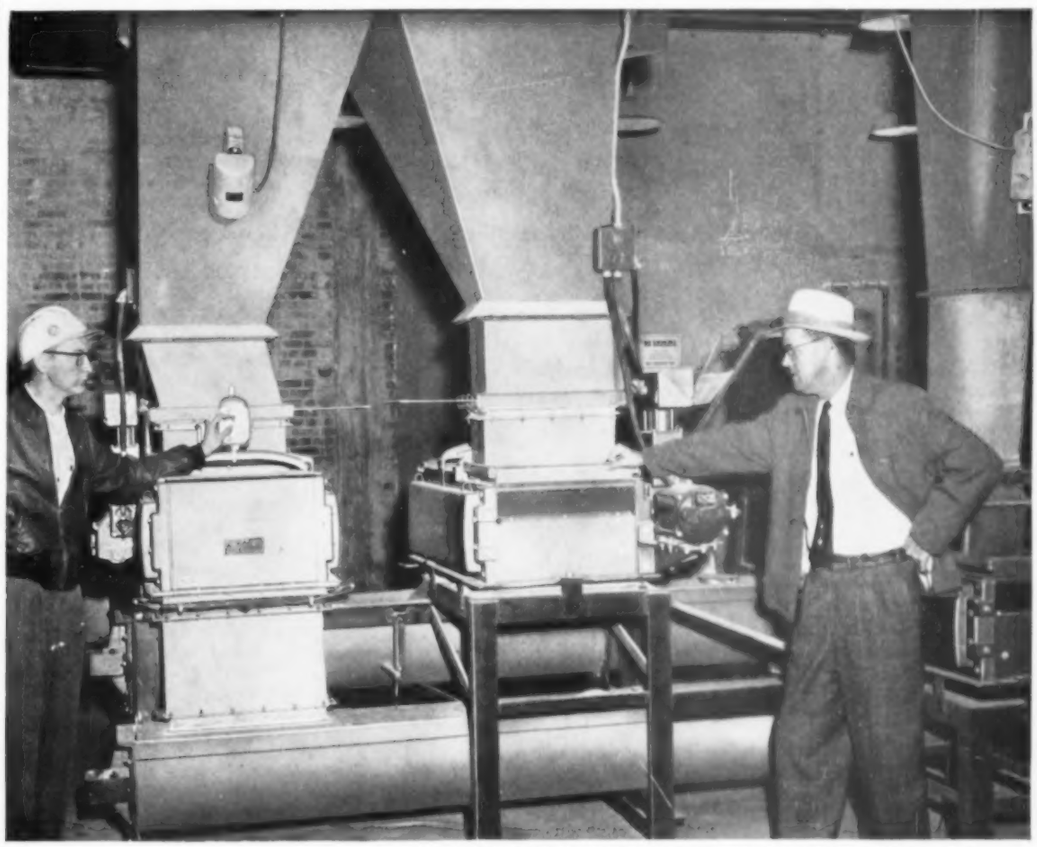


Merchen Scale Feeders blending salt and trace minerals at Carey Salt Co., Hutchinson, Kans.

MERCHEN SCALE FEEDERS

offer continuous dry blending by weight

The Carey Salt Company produces salt blocks for cattle that contain a percent blend by weight of nutritional minerals. W&T Merchen Scale Feeders were selected for the blending operation.

If accurate blending of dry, free flowing materials is important to your production, Merchen Scale Feeders offer feed rates from 3 ounces to 3000 pounds per minute, always maintaining accuracy within 1% of the feed rate. The feeders compensate for changes in material density to maintain a constant feed by weight.

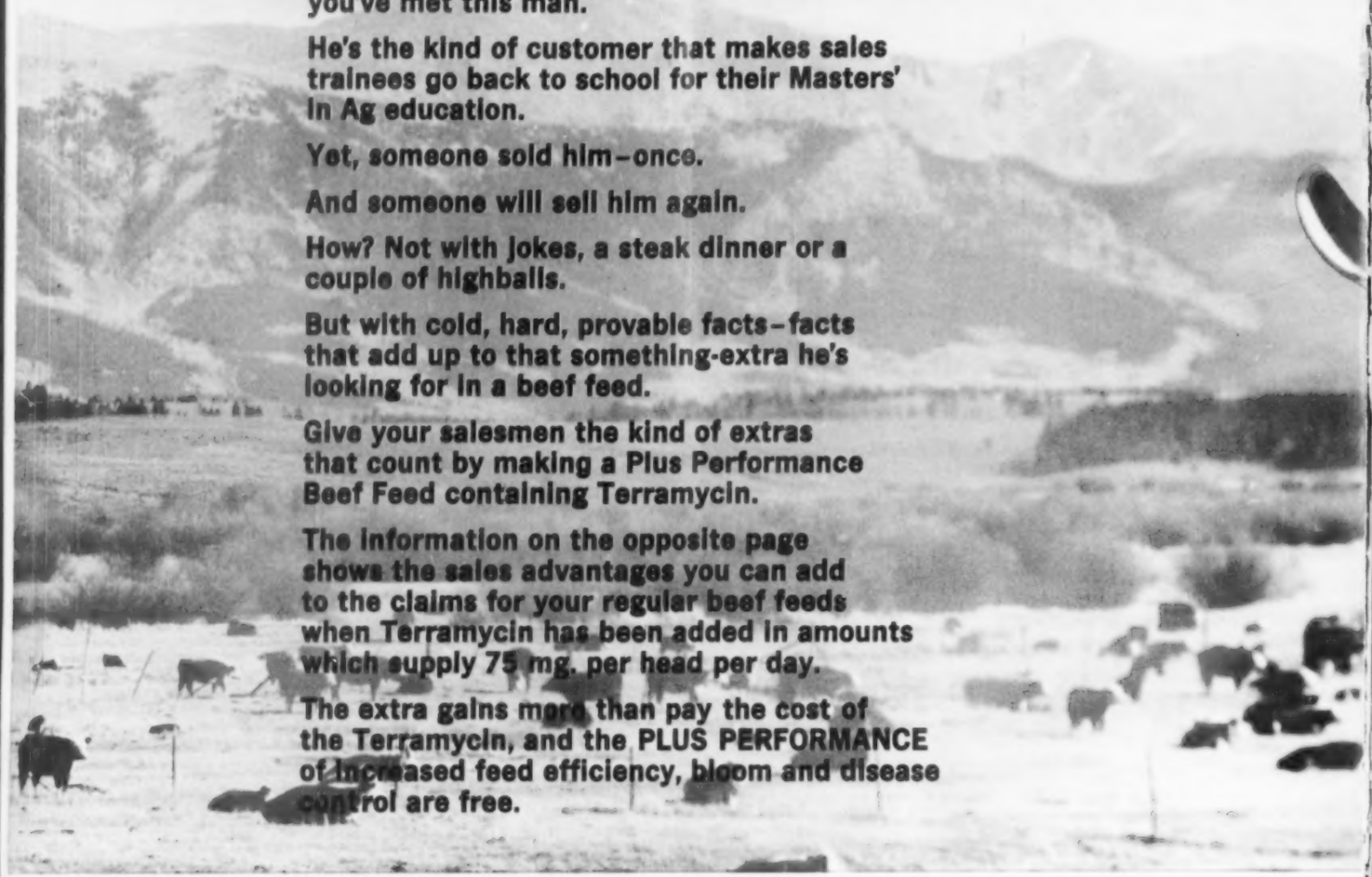
Where a number of ingredients must be blended, Merchen Feeders can be electrically or pneumatically controlled from other plant equipment for automatic operation. Send for our booklet M-37, "The Best Weigh is the Merchen Way."

WALLACE & TIERNAN INCORPORATED

25 MAIN STREET, BELLEVILLE 9, NEW JERSEY

GIVE HIM ADVICE HE'LL APPRECIATE

Remind him to order Morton T-M Salt. See page 79.

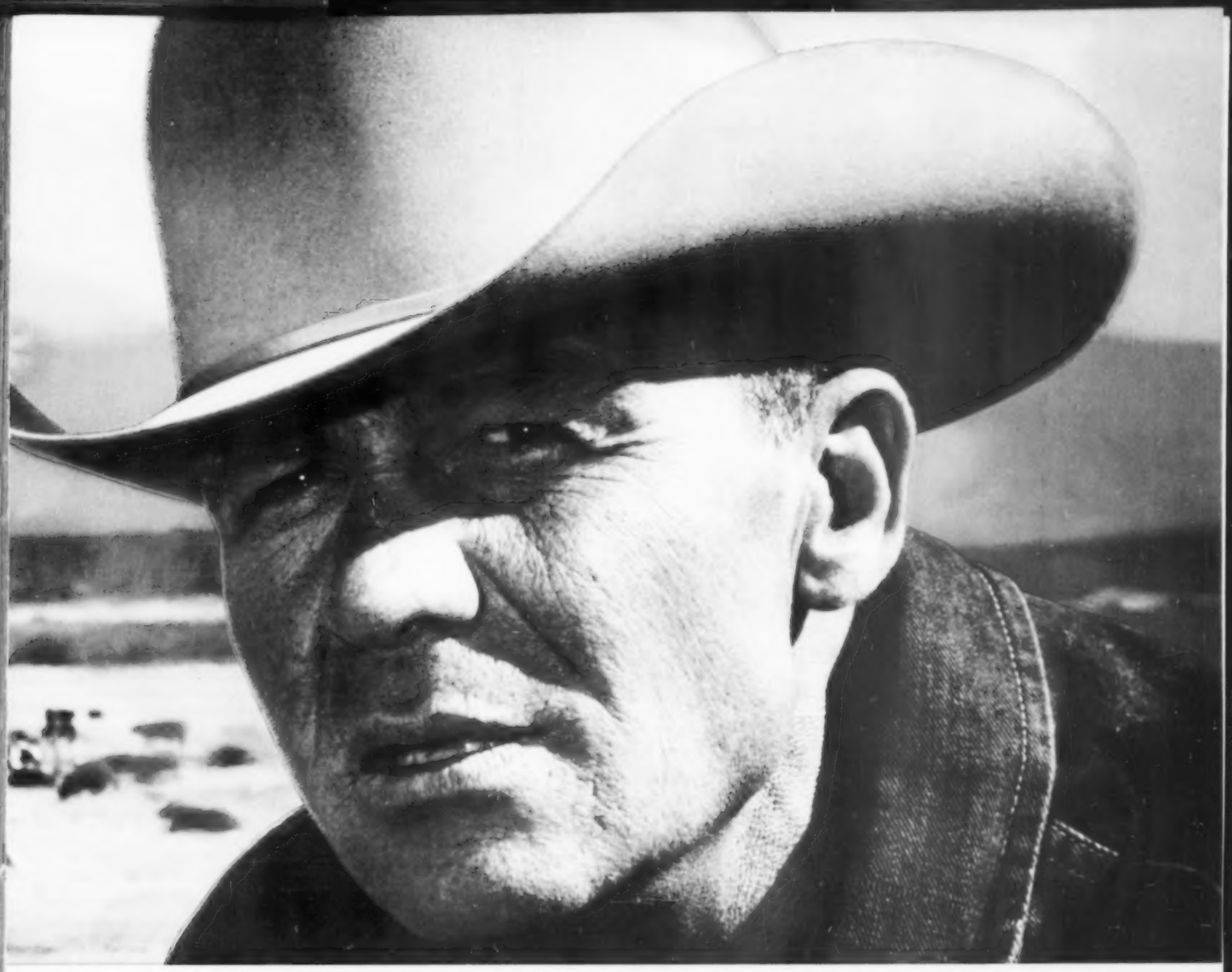

If you've ever hit the road for a feed company you've met this man.
He's the kind of customer that makes sales trainees go back to school for their Masters' in Ag education.
Yet, someone sold him–once.
And someone will sell him again.
How? Not with jokes, a steak dinner or a couple of highballs.
But with cold, hard, provable facts–facts that add up to that something-extra he's looking for in a beef feed.
Give your salesmen the kind of extras that count by making a Plus Performance Beef Feed containing Terramycin.
The information on the opposite page shows the sales advantages you can add to the claims for your regular beef feeds when Terramycin has been added in amounts which supply 75 mg. per head per day.
The extra gains more than pay the cost of the Terramycin, and the PLUS PERFORMANCE of increased feed efficiency, bloom and disease control are free.

Tough customers are easy to sell when you give them a reason to

Here are 6 reason-why benefits to help you sell new customers your brand of

PLUS PERFORMANCE FEEDS CONTAINING Terramycin

BRAND OF OXYTETRACYCLINE



buy.

PLUS PERFORMANCE NUTRITIONAL ADVANTAGES

1 EXTRA GAINS
1 steer "free" with 40

In tests with over 30,000 head, gains averaged 8% more when Terramycin was added to the feed. Results showed up to ¼ lb. more gain per head per day over a 100-day feeding trial (enough to make 1,000 lbs. of bonus gains from every 40 head fed on your PLUS PERFORMANCE FEED).

2 EXTRA FEED EFFICIENCY
1 ton "free" with 12

In tests with over 30,000 head, feed efficiency averaged 8% more when Terramycin was added to the feed. (A "baker's dozen" feed bonus to your customers just for buying your PLUS PERFORMANCE FEED.) Ranchers report cattle went on feed faster, made better use of grains.

3 BETTER BLOOM AND CONDITION
feeder reports $2.50 bonus at market

Feedlot reports show better hair coat, bloom, condition. Edwin Fahrenholz, Allen, Neb., says: "The Terramycin group had better condition; brought 25¢ more per hundred" (enough to make a $2.50 premium per 1000-lb. steer fed on your PLUS PERFORMANCE FEED).

PLUS PERFORMANCE IN DISEASE PROTECTION

4 FIGHT BLOAT
new help in deflating a $25 million loss

Three years of testing at two Midwestern university experiment stations showed Terramycin reduced the incidence of bloat 76% . . . reduced the severity of attacks in others. Works on range, pasture or in feedlot, too! (Your customers minimize a serious problem just by using your PLUS PERFORMANCE FEED.)

5 PREVENT LIVER ABSCESS
powerful help in eliminating a $3 loss per steer

Eight buyer-packer plants with 14 lots of animals (729 head) fed out with Terramycin reported only 0.67% had liver abscesses, compared with usual losses running 10% or more. That's why packers like Del Greenlee, Sioux Falls, S. D., prefer Terramycin-fed animals. (Another market advantage for customers who buy your PLUS PERFORMANCE FEED.)

6 CONTROL DISEASE*
fight scours and secondary diseases

Terramycin's value in reducing bacterial diarrhea and secondary infections is a well-documented sales advantage.

*Team up your 75 mg. Terramycin finishing feed with a 500-gram conditioning feed. Make them into a beef-feeding program—conditioning feed for 5-8 days on arrival and at times of stress or severe weather; 75 mg. feed for the rest of the feeding period. Tests prove Terramycin could reduce death losses due to Shipping Fever by 80%, reduce the number of animals needing additional treatment by 83%.

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Oct. 14-15—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Agricultural Experiment Station Bldg., University of Kentucky, Lexington, Ky.

Oct. 20-21—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 22-23 — Annual Stockholders Meeting, Cooperative G.L.F. Exchange, Inc., Onondago County War Memorial Building, Syracuse, N.Y.

Oct. 30—Illinois Sheep Producers Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Department of Animal Science.

Nov. 4-7 — National Renderers Assn., Hollywood Beach Hotel, Hollywood Beach, Fla.; sec., Miss Jamie Fox, 30 N. La Salle St., Chicago 2, Illinois.

Nov. 12-13—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. F. W. Hill, Poultry Husbandry Dept., Cornell University, Ithaca, N.Y.

Wayne R. Schol

SALES MANAGER — New general sales manager of the Oelwein (Iowa) Chemical Co. is Wayne R. Schol, according to an announcement by William E. Noble, general manager. Mr. Schol has been placed in charge of the feed firm's over-all sales, advertising and promotion programs. Mr. Schol joined the company in 1946 as a part-time distributor and has held the positions of district manager and division manager. For the past two years he has been regional sales manager of a seven-state area in the Midwest. The Iowa firm manufactures OCCO "Protein Plus" mineral feeds, with sales distribution covering a 22-state area.

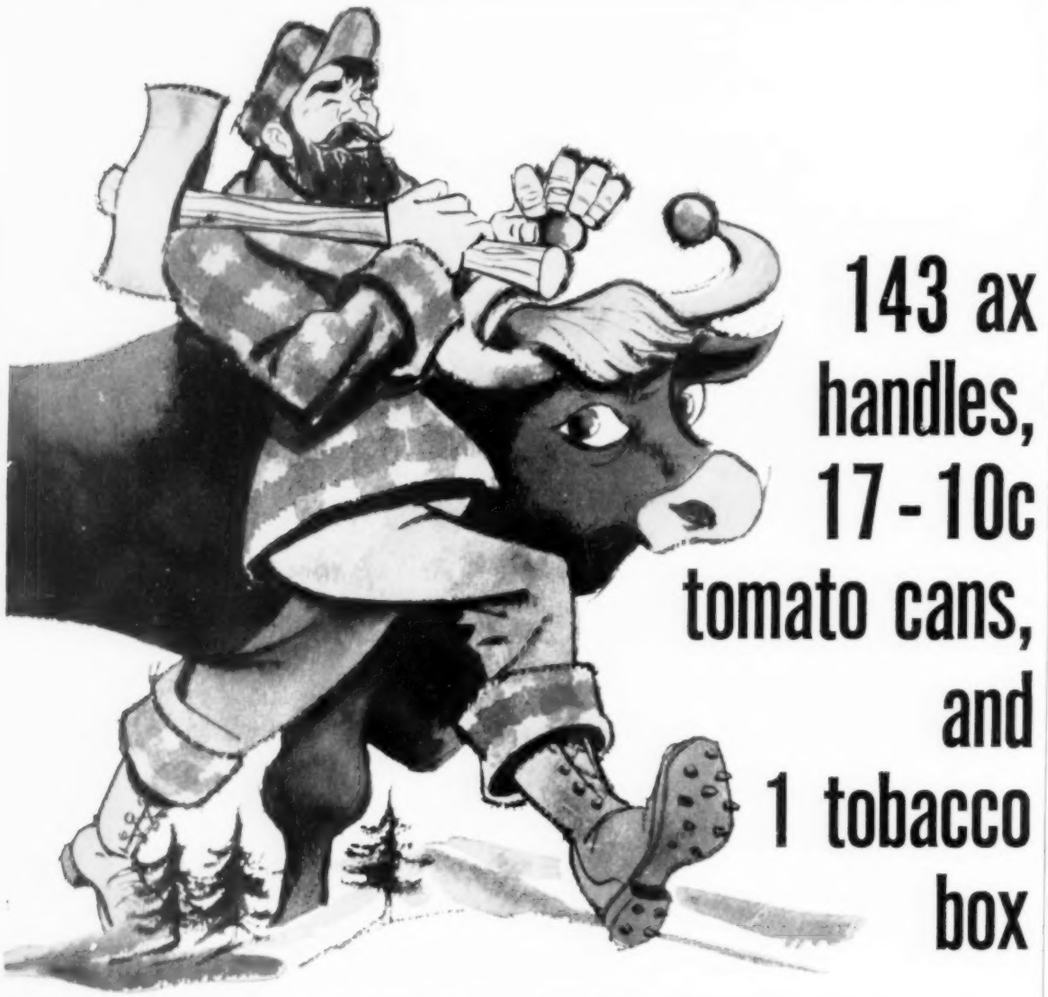
Chart Listing Grain Standards Available

EVANSTON, ILL. — Burrows Equipment Co. announces that it has available to the grain and feed trade a new, large wall chart covering all of the latest U.S. Department of Agriculture grain standards.

The chart contains the new revised oat standards to be effective June 1 and the revised corn standards to become effective Oct. 1. Copies may be obtained by writing to Burrows Equipment Co., 1316-C Sherman Ave., Evanston.

Egg Plan Expanded

PONTOTOC, MISS. — Riverside Feed Mill is expanding its contract egg program and is advertising for housing to accommodate at least 30,000 hens. The mill furnishes the layers, feed and service work, and pays a guaranteed price per dozen eggs produced.



143 ax handles, 17-10c tomato cans, and 1 tobacco box

This odd assortment of material made up the first "official" horn-tip to horn-tip measurement of Paul Bunyan's famous blue ox, Babe. Unfortunately, Babe's later growth could never be recorded because he "growed" two feet more each time you looked at him. No doubt about it . . . Paul Bunyan knew his onions when it came to productive livestock feeding.

Even though your feed can't turn out such fabulous creatures as this, it can produce far better real-life results for you and for your customers. Modern mills throughout the country have been achieving an entirely new concept of high-efficiency feeds through the addition of an important new ingredient . . . stabilized animal fat.

Animal fat increases feed efficiency more than any other single ingredient because it contains twice as much energy per pound. Its use makes possible new high-powered feeds for poultry, hogs, or cattle . . . high-efficiency feeds that mean better conversion, lower cost per pound of weight gain, and increased growth rate. In addition, animal fat adds better appearance and palatability, reduces dustiness in feed, and increases capacity of pellet mills.

You'll get better prices and more sales with your fat-fortified feeds because they do more for the user . . . give him greater profits through better results.

No matter if you're large or small, you can use animal fat easily and profitably to improve your product. Write for our free booklet that fully describes the application of fat to feed. You owe it to yourself to have this valuable information.

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. . . and Still the Best Blackhead Preventive!

Now you can fortify your feeds with the best protection against blackhead and also get new benefits through HISTOSTAT-50. This new formulation of Histostat contains the same proven active ingredient—4-nitrophenylarsonic acid—from the chemical family of arsenicals, which are universally recognized for their growth-stimulating properties. Now, Dr. Salsbury's new, improved formula HISTOSTAT-50 permits this active ingredient to do its work more completely and effectively—especially as birds approach market age or maturity.

HISTOSTAT-50 contains 50% 4-nitrophenylarsonic acid and is used at the rate of 1 lb. per ton of turkey mash (complete ration). This permits greater feed-manufacturing convenience, outstanding economy . . . and still provides the best blackhead preventive available today!

Write, wire or phone for complete information, including Feed Manufacturers Guide 16.

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NATIONWIDE SERVICE TO THE FEED INDUSTRY

Says Complete Pelleted Rations For Sheep, Beef and Dairy Cattle Are 'Here to Stay'

By ROGER BERGLUND
Feedstuffs Managing Editor

"I have convinced myself that the self-feeding of a complete pelleted ration to sheep, beef and dairy cattle is here to stay."

That statement comes from a man who has been responsible for the feeding of thousands upon thousands of lambs and cattle.

Phil Larner

Making the statement was P. G. (Phil) Larner, Woodland, Cal., recently retired as president of the Sutter Basin Corp., Robbins, Cal. (Note that he includes dairy cows as well as sheep and beef cattle.)

Mr. Larner acknowledges that not everyone will agree with him, but he continues as a strong advocate of complete pelleted rations, including both roughage and concentrate, for ruminants. And, as support for his stand, he points to years of experience in feeding tests, in the production and feeding of pellets in the company's own feeding operations and in the sale of pellets to others.

In a talk at the recent Montana Nutrition Conference at Montana State College, Mr. Larner outlined reasons why he feels that the "self-feeding of a properly balanced high-roughage pellet will work equally well for sheep, beef cattle and dairy cows." Also, in a question-and-answer session and in an interview, he described his experience and thinking on various nutritional, production and handling aspects of complete pelleted rations.

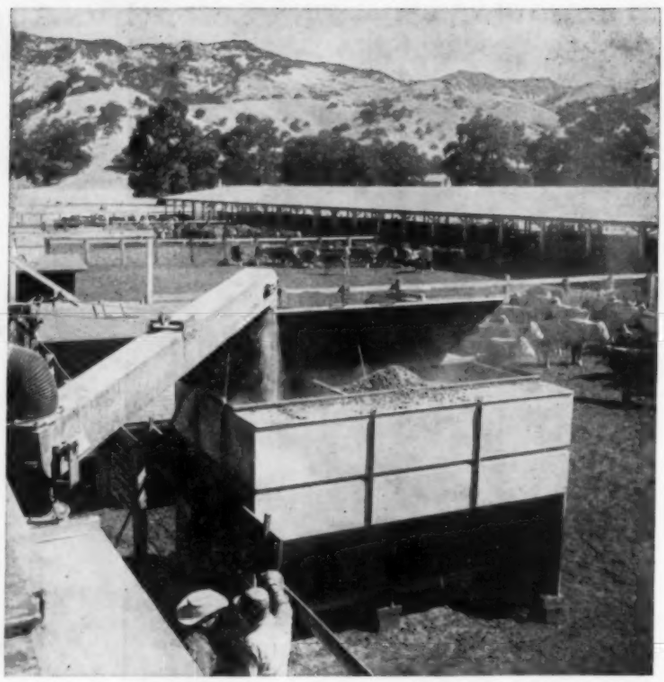
Some nutritionists and others have presented what they feel are problems in the use of complete pellets—where all of the ration is in pellet form. Some of the things which have been mentioned (in addition to processing and pelleting costs in some instances) by researchers include improper rumen function, development of parakeratosis, reduced butterfat production in dairy cows, unsatisfactory results with the fine grinding necessary for material to be pelleted.

Discounts Objections

Mr. Larner said that he did not want to argue with others, but he indicated that his tests and experience would discount or rule out various nutritional objections to complete pellets that are self-fed. And that included dairy cows and beef cattle as well as lambs.

While everyone may not have agreed with him, it appeared that not many in his Montana audience were inclined to question his conclusions, particularly when he showed a picture of a Sutter Basin feeding operation in which as many as 95,000 lambs have been fed at one time—by one man.

In answer to questions that might be raised, Mr. Larner put a good deal of emphasis on "the right pellet." Indicating that there are no problems if the pellets are designed and made into a "good, hard pellet," he said that just as "there is hay, and then there is hay, there are pellets, and there are pellets."


Complete pellets from the Sutter Basin Corp. plant are being unloaded from a bulk truck into a big self-feeder at a cattle feedlot. The pellets—containing finely ground hay, grain and other ingredients—are the only ration fed to both cattle and lambs. As Phil Larner puts it, the "feed truck driver does the feeding for you."

In his prepared talk, Mr. Larner first suggested: "Those of us in the ruminant field can well afford to tear a sheet out of the poultry industry's book of high success.

"Nine or ten years ago I became convinced that the producers of red meat had to find a more efficient means to produce a pound of meat if we were to keep our position marketwise with the poultry industry. . . . We producers must, if we are to receive our fair share of the market, produce USDA choice or its equivalent.

Quality Control

What should be done about it? Mr. Larner asked. His answer:

"Raise our quality control by better feeding methods.

"We in the red meat field have not kept pace with the genetics, nutrition, pharmaceutical and technological advances available to us as has the poultry industry.

"As president of the Sutter Basin Corp., I decided back in 1950 that we had to do something about our own ability to produce the grade and type of meat that the packer and consumer demanded. To do this, we realized, we would have to take a new look at the whole problem of livestock feeding. In our opinion, the conventional methods of feeding had become obsolete and a new, more efficient way was needed. With this in mind, we set sail on an uncharted course, a hot water course that led to a commercial livestock feeding program that had never been tried on such a scale."

"Proof of our success," said Mr. Larner, "is evidenced by conclusions of others that pellets are the 'livestock news of the year.'

"I suppose," he continued, "that I should take my share of the responsibility for the evolution or revolution that is upon all of us as a result of the current widespread interest in and development of complete pellets, for this is the culmination, as far as I am concerned, of eight or nine years of hard and fruitful work. . . ."

While he sold out his interest in Sutter Basin Corp., Mr. Larner continues to be a leading exponent of pellet feeding.

"I am convinced," he said, "that the self-feeding of a balanced high-roughage pellet that can be safely self-fed is here to stay, for many reasons."

Reasons Listed

Among these reasons, Mr. Larner said, are the following:

1. Permits safe self-feeding with minimum of labor.
2. Improves feed efficiency.
3. Reduces or eliminates digestive disorders, such as going off feed and over-eating disease.
4. Adapted to bulk handling; reduces dust and feeding losses.
5. Brings about true automation, for the animals feed themselves.
6. Eliminates sorting of feeds and nutrients, thus guaranteeing balance of all ingredients; prevents waste of costly additives such as vitamins, hormones, antibiotics, tranquilizers.
7. Eliminates hazards of bringing animals up to a full feed since they go on full feed the first day.
8. Thus an old saying, "The eye of the master fattens his animals," is gone, too; in this system the feed man's truck driver feeds them for you.
9. Absolutely a safe way to creep feed lambs and calves.
10. Any producer's ranch can become a commercial feedlot without large capital outlay, which in turn could bring about a means of vertical integration.

"We have fed thousands upon thousands of sheep using this system, and never within my knowledge of livestock feeding has such high success been attained," Mr. Larner declared. "Seldom does a packer receive a lamb from our lots that does not grade choice or better with a yield of 50% or better. The California packers will attest to this.

"At this point I would like to explain why we chose sheep for our trials. Realizing that we would have to find our way by trial and error, we could by feeding sheep materially shorten the trial feeding period. We could get our answers much faster.

"I want to say here and now that the self-feeding of a properly balanced high-roughage pellet that can be safely self-fed will work equally as well with beef and dairy cows as it does with sheep.

"I realize there will be others who will disagree with this statement. That is as it should be. Should everyone be in agreement as to how livestock should be fed, there would be little chance for progress and I

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wouldn't be in Bozeman telling of my experiences.

"Controlled Feeding"

"The important point is that we in this industry must do a better job of quality control. I know of no better way to accomplish this than by controlled feeding. I do not mean to say that as of now this has been accomplished, for it hasn't. If feed manufacturers and livestock people will take this new tool and work out the necessary balanced feeds for their locale, we will open wide a new era of livestock feeding. We can't rest on our oars until we can talk about feed conversions in the range of 6 to 1 or below. We can with proper efforts reach this goal."

Mr. Larner went on to describe some of the Sutter Basin operations and answer questions posed at the Montana conference and in an interview. Some of the points which he made and some of his answers follow:

What kind of gains do you obtain?

Gains on an 850-lb. steer will run about 3 lb. daily. Lamb gains will average .5 lb. per head per day.

If lambs and calves were creep fed, along with use of the new feedlot programs, the livestock industry could compete with poultry, Mr. Larner commented.

What is in the ration?

Dehydrated alfalfa, hay, barley or milo (depending on the season), molasses, antibiotics, vitamins and minerals. The pellets have 12-13% protein. Cattle are implanted with stilbestrol, while the lambs get no hormone. No hay or straw of any kind is fed separately. The animals get only the pellets, water and salt free-choice.

What kind of pellet is used?

Mr. Larner said it is a high-roughage, hard pellet, made with finely ground material. Sutter Basin, he said, uses 100 h.p. California pellet mills. "It requires big horsepower on high-roughage material," he commented.

How about handling?

The pellets, said Mr. Larner, should be handled "totally on a bulk, self-fed basis."

He described a big operation where 95,000 lambs have been fed at one time at one lot. There are three 4-ton self-feeders for 400 to 600 sheep. The total operation of supplying feed to the animals is a one-man operation. Bulk pellets go into a feed wagon and then into the feeders. The lambs are fed only once a week. Animal husbandmen check on the animals periodically. If they see feed is needed, they simply remove the covers from the feeders where more feed is required, and the man taking out the pellets fills the feeders.

Mr. Larner also described an operation where feed from a dealer's truck is put into 10-ton self-feeders for cattle. Frequently 20-ton trucks are used, which means big feeders.

With 10-ton feeders, in a closed lot, in close quarters, Mr. Larner suggested 1½ in. of feeder space per head for lambs and 3½ in. for cattle. The animals eat 24 hours a day, so not much space is needed.

The pellets are now moved into the feeders by screw conveyors, but Mr. Larner said he believes there is less breakage with air conveying.

What about some of the research that has been reported on certain aspects of using complete pelleted rations?

Mr. Larner indicated that on fineness of grind, for example, he does "not think that papers which have been written are very good."

He said he wanted to stress the number of head involved in his firm's tests and experience. He called pelleting complete rations a "tried and true process."

How much hay is in the ration?

In his locale, Mr. Larner said, a 70% hay ration is used. He said the minimum fiber content is 20-23% of the total ration.

He explained it this way: Half of this ingredient is dehydrated alfalfa, which has a lower fiber content than other hay. Then a poorer quality hay or straw is used so that the fiber will be more than 20%.

Any experience without dehy?

Mr. Larner said he thinks there are values in any quality-controlled product. For one thing, a good balance is needed when "bugs" are being fed. The ration must have certain nutrient values, such as vitamin A, carotene, etc. So, he said, quality is obtained through use of dehy, and then is blended down with low quality roughage to get the required fiber content. He feels dehy is necessary.

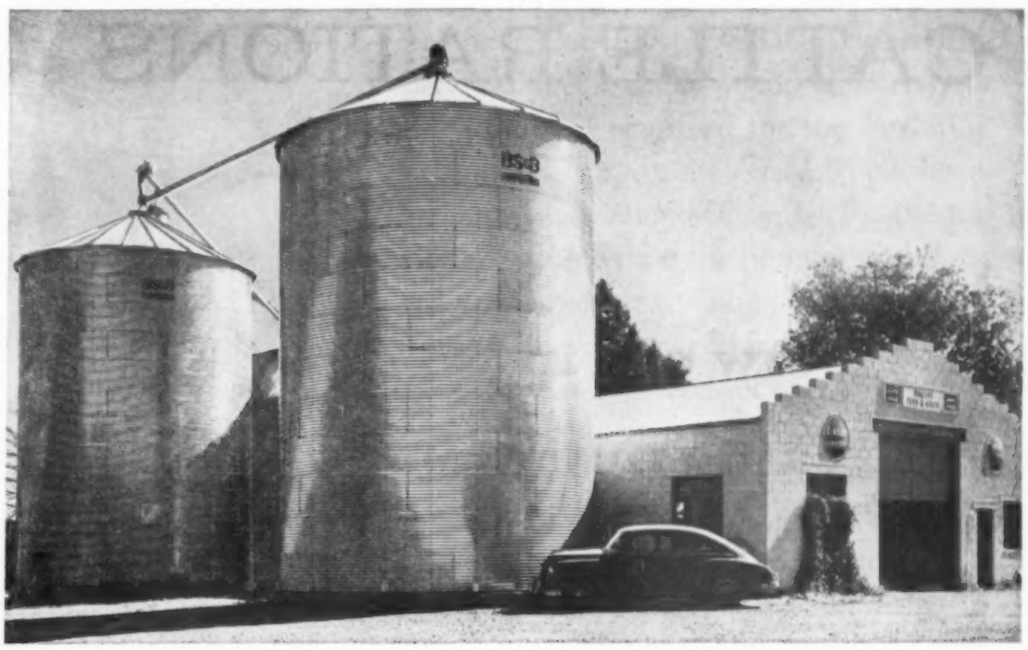
How about animals put on feed?

They go into the feedlot and start getting the complete pellets as soon as they come off the truck or train. They go on full feed the first day, receiving the pelleted ration immedi-

(Turn to page 44)

GIVE HIM ADVICE HE'LL APPRECIATE

Remind him to order Morton T-M Salt. See page 79.



Midwest Feed And Grain Dealer Chooses BS&B "KING-SIZE" For Expanded Grain Storage Operations

In August of 1958, C. J. Rogers Feed & Grain Co. of Trenton, Missouri, purchased and erected two 12,000 bu. BS&B King-Size Bins to supplement their existing 9,000 bu. of storage capacity. Here's what Mr. Rogers says about his King-Size bin installation:

"We are using these King-Size Bins for storing Government corn. To fill these bins, we auger from leg in the elevator through the top (of the bins), with unloading in the bottom. We have aeration ducts in the bottom and use a 1½ H.P. high speed BS&B fan to aerate.

"When we filled these bins, part of the corn was running high in moisture. We dried these bins of corn with our 1½ H.P. BS&B blower and no heat in a reasonable time, and have had no trouble since.

"We are pleased with the Z bar stiffeners (in the bins), especially since they extend to the top of the sidewalls. I think this is very important and very easy to install. We find (the bins) have a very good filler opening, and are well weather-proofed and well ventilated."

Further expansion plans call for the addition of more BS&B King-Size Bins at Rogers Feed & Grain Co. this year. Why don't you, too, investigate the possibilities that the addition of BS&B King-Size Bins may hold for your business? For complete information, contact the BS&B King-Size Bin Distributor for your area . . . or write to us direct.

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"I am convinced," he said, "that the self-feeding of a balanced high-

stock should be fed, there would be little chance for progress and I

MERCK

PROGRESS REPORT

for members of the feed industry

ENZYMES IN FATTENING CATTLE RATIONS

New era in cattle nutrition may be in sight

Ames, Iowa—March 10th

Results of the first feed lot tests with Agrozyme showed an average profit margin of $8.05 per steer over controls, it was announced at the Iowa State College Cattle Feeders' Hey Day. These results were obtained in two experiments conducted with fattening yearling steers on rations of a concentrate of silage and sound dry corn, supplemented with stilbestrol and this enzyme from Merck & Co., Inc. A level of .0075 pound of Agrozyme per head was used. Additional tests will be necessary to supplement these results.

In one 168-day trial, the feed cost per pound of gain was .8¢ less than the controls; weight gains improved an average of 11 per cent with an 8 per cent reduction in total feed consumed.

The Iowa State work further demonstrated that cattle fed a complete ration for 112 days also responded to Agrozyme. Weight gains of animals fed pellets containing Agrozyme were 14 per cent higher (on 8½ per cent less feed) than steers receiving untreated pellets alone. In the lot on Agrozyme the feed costs per pound of gain was 1.1¢ lower than the controls.

Additional tests to more fully evaluate the action of Agrozyme are currently under way at Ames and in other experiment stations and commercial feed lots. If future results confirm the work at Iowa State, enzyme-supplementation of rations for fattening cattle may prove to be a development of major significance.

What is AGROZYME

AGROZYME* is a mixture of enzymes specially formulated for the feed industry. The addition of AGROZYME to poultry rations has been shown to raise the feeding value of western barley to almost that of corn.

It now appears that the addition of this enzyme to beef cattle rations—(including those containing stilbestrol)—may improve growth, efficiency of feed conversion and reduce feed costs to a point of great commercial significance. For example, when AGROZYME was fed at the rate of .0075 pound per head per day for a 120-day feeding period, the cost of 0.9 pound of AGROZYME—the amount required for the fattening period—was approximately $1.65 per head.

This new development in beef cattle nutrition carries with it the promise of shorter, more economical fattening periods and may prove to be of tremendous importance to cattle feeders and feed lot operators everywhere.

Merck is continuing its large-scale program of enzyme research designed to develop important break-throughs in the nutrition of animals. The discovery of the value of AGROZYME in cattle fattening rations is in part a result of this program. An earlier result was the application of AGROZYME to the improvement of the nutritive value of western barley. Future progress in enzyme research will be reported to the feed industry as soon as results become available.

Stocks of AGROZYME are available and may be ordered for experimental testing. For supplies or additional information, call your Merck representative or write to: Agricultural Products, Merck & Co., Inc., Chemical Division, Rahway, New Jersey.

*TRADEMARK OF MERCK & CO., INC. FOR ITS BRAND OF AN ENZYME SUPPLEMENT.
©MERCK & CO., INC.

MERCK & CO., INC.
Chemical Division
Rahway, New Jersey

ately. Mr. Larner said it has been found that just the one ration is necessary. A steer will go in at 700 lb. Some 24-26 lb. of pellets are consumed per day.

How big are the pens?

For finishing, Mr. Larner suggested not more than 500-600 sheep and 50-60 cattle per pen.

What grind is used on hay for cattle and sheep?

Indicating that he can see no reason why hay can't be finely ground, Mr. Larner said that his firm has used a fine grind, that the "smallest screen" is used. In this connection, he commented that a good, hard pellet is needed.

"Something is needed to tickle or agitate the rumen," he said. "Roughage does this, but the pellet itself will also do it.

"Cattle on the pellets will eat hay, but sometimes they will over-do the hay and knock out the ration balance. I don't think that separate hay is necessary."

He emphasized that he feels a "good, hard pellet" is necessary to overcome the lack of hay.

Mr. Larner said that the more finely ground the hay, the better is the feed conversion.

He went on to say that the area of contact on feeds for digestive action to take place is important and that fine grinding increases the area of action.

Also, he said, pellets mean the animal consumes feed and converts it to meat more quickly. "We are delivering material to the digestive organs more quickly," he said, "and the faster the job, the better."

"The animal doesn't wear itself out grinding hay," said Mr. Larner.

What are the results with dairy cows?

Not so much work has been done on complete pelleted rations for dairy cows, Mr. Larner noted. However, he mentioned some tests currently being conducted in a commercial dairy operation on the self-feeding of complete pelleted rations to milk cows.

He said that he could not yet disclose the results but indicated improved milk and butterfat production in the preliminary results. And he noted that he would go on record saying he felt these pelleted feeds would be equally as effective for dairy cattle as for beef cattle and lambs.

How is molasses added in the pelleted feeds?

Some 8-10% molasses is used in both the beef cattle and sheep pellets. The molasses gives the best digestive results, Mr. Larner said, and improves the mechanics of pelleting. The molasses is added at the pellet mill.

What size pellet is used?

Mr. Larner said that a ⅛ in. pellet is now being made and fed.

"We started out too small," he said. "I think that in cattle feeding, we will wind up with ½ to about ¾ in. pellets."

He mentioned that a 4 in. die is used in making the pellets. This, he said, results in a harder pellet.

How about cud-chewing or ruminating?

Mr. Larner said first that his firm had fed steers for 18 months on the complete pellets to see whether they would do injury to the steer. And, he said, none resulted.

He indicated that the animals fed the pellets do not ruminate or chew their cud in the normal way. "They save energy normally used in digesting nutrients," he commented.

Mr. Larner raised questions as to whether all of the traditional assumptions as to how cattle and sheep must eat and digest feedstuffs are correct.

Has there been a problem of parakeratosis?

There have been no particular problems as a result of feeding the pellets, Mr. Larner indicated. He said that there are "good droppings," that there is no looseness and that there is no compaction in the rumen.

Also, he commented, there has been no serious bloat problem in the animals fed the pellets.

Have ensiled feeds been used?

"We would like to ensile materials going into the pellets," Mr. Larner said. "At present this results in higher manufacturing costs, but we still hope to do it."

Mr. Larner indicated interest in not only preserving nutrients through silage but also addition of something to ensiled material to "kick up" the feeding value so that it would be possible to use such material in the pellets.

This development, he said, is related to enzyme feeding.

Central Soya Reports Hike in Sales, Profits

FT. WAYNE, IND.—Net sales, net profit, and net profit per share on Central Soya Co., Inc., stock increased for the six-month period ending Feb. 28, and also for the three-month period ending at the same time. The Ft. Wayne firm is the parent company of McMillen Feed Mills.

Net sales for the six-month period were $133,188,862 as compared to $101,847,636 for the same period in 1958. Net profits were $6,595,824 as compared to $4,116,704 a year earlier. Net profit for the six-month period was $2.38 on 1,334,632 shares, as compared to $1.83 on 1,110,481 shares last year.

For the three-month period, the figures were $67,759,879 net sales, compared to $49,451,960 in 1958. Net profit was $3,435,022 compared to $2,185,594 for last year. Net profit per share for the three months was $1.24 this year as compared to 98¢ for last year, based on the same increase in outstanding shares noted above.

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"HERE'S HOW WE SELECTED THE BRAND WE HANDLE"

says C. B. Johnson of Johnson Feed Mill at Hopkinton, Iowa

1. We wanted a company that is expanding.
2. We wanted a company that wasn't coming to country to high-pressure you.
3. We wanted a company that spends wisely for advertising.
4. We wanted a company with a good reputation.
5. We wanted a company that doesn't feature premiums as a wedge to sell their feed.

With this is mind, we spent two days in August visiting various feed dealers in a section south and west of Cedar Rapids. We weren't acquainted with any of them but we think they were co-operative and sincere in their conversations. The feed that seemed to come the closest to meeting the 5 points above was Hubbard Sunshine.

We talked with one dealer in a town of about 600 people. The town has 6 other feed dealers. He has handled Hubbard Sunshine for 22 years, has more than his share of the business in the town and is well satisfied. He also had us talk to one of his customers who has fed Hubbard's for 17 years, and looking at this man's farm, we think he has been doing very well. So the last thing was to contact Hubbard Milling Company to see if we could have the franchise—and we now have it.

That is our story. We think we have joined an old-time company that is conservative, has good feed, will help when necessary, but won't force themselves on us as dealers or you as customers.

MR. DEALER—

Hubbard's Dealer Program adds up to GREATER PROFITS for you. Pioneers in the feed concentrate field, Hubbard leads in Dealer Services that pre-sell the many Hubbard Feeding Programs to your customers. Regular customer advertising, special promotions, dealer advertising aids, training schools, laboratory service and counsel are only a few of the many ways Hubbard builds YOUR profits with a complete merchandising program.

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Sorghums Seen as Basis for Texas Cattle Expansion

LUBBOCK, TEXAS—Grain sorghum and cottonseed hulls held the spotlight at the annual Texas Technological College Cattle Feeders' Day here recently.

More than 150 cattlemen from west Texas and New Mexico heard an agronomist describe the potential of the cattle feeding industry in west Texas and a Texas Tech graduate student tell the results of a 112-day feeding trial.

Even before the range grasslands make a complete comeback, west Texas will see a big expansion in the cattle feeding industry, according to speakers at the meeting.

"West Texas is particularly well suited for expanded cattle feeding operations, and increasing sorghum production can form the basis for this industry," Dr. N. W. Kramer of Texas Tech experiment station at Lubbock declared.

Dr. Kramer, who is agronomist in charge of sorghum investigation, pointed out west Texas' proximity to feeder cattle production and its nearness to rapidly-expanding markets for beef in the West and Southwest.

"Cattle feeding and sorghum production go together in this semi-arid area," Dr. Kramer said. "More efficient systems of feeding are making it possible to get even greater returns from sorghum grain and forage fed to cattle.

"Improvements in the sorghum crop are making it more useful and valuable to the feeder," he said, adding that the area produces a tremendous amount of cottonseed products used in feeding operations.

Feeding Pellets

James G. Cloyd, Texas Tech animal husbandry graduate student from Canadian, Texas, reported that yearling steers ate as much as a pound more feed daily when fed partially-pelleted rations than animals fed a completely pelleted ration. But daily gains remained the same in trials just completed here.

Using 80 heavy yearling steers in the 112-day feeding project, Mr. Cloyd's project compared: (1) a completely pelleted ration with a partially pelleted ration of cottonseed hulls and alfalfa, (2) self-feeding with hand feeding, and (3) various-sized pellets in completely and partially pelleted rations. Eight lots of 10 steers were fed.

Mr. Cloyd said the cost per cwt. of gain was greater for the completely pelleted rations by $3.11. This was due primarily to the greater cost of preparation of the ration.

Similar rates of daily gain were made by both self-fed and hand-fed steers—2.7 and 2.76 lb.—but self-fed steers ate 3.5 lb. more a day, he reported. Consequently, the cost per cwt. of gain was considerably higher for self-feeders ($26.04) over hand-fed steers ($22.40). Lower labor cost off-set this partially, he said.

"There was no difference in average feed consumption, average rate of gain, or average cost per 100 lb. of gain between rations containing pellets of different sizes," he said.

Records show the average labor cost per lot for the feeding trial was $13.95 for self-fed groups, $24 for completely pelleted, hand-fed groups, and $27.98 for the partially pelleted, hand-fed lots. Mr. Cloyd conducted the project under a $1,500 Texas Cottonseed Crushers Assn. scholarship.

1959 Cattle Outlook

In another session, Dr. Wayland Bennett, Texas Tech agricultural economics department head, described the 1959 cattle outlook as "fairly bright," adding, however, that "for the long future, a reduction in cattle prices is most likely."

Dr. Bennett pointed out that cattle prices and incomes "indeed are improved. Prices of cattle this past year increased 41% for choice steers to 86% for utility slaughter cows from their lowest point in 1956."

"The present superabundance and low cost of feed make it almost certain that the increase in production that began in 1958 will last for some time, and that prices will eventually decline," he stated.

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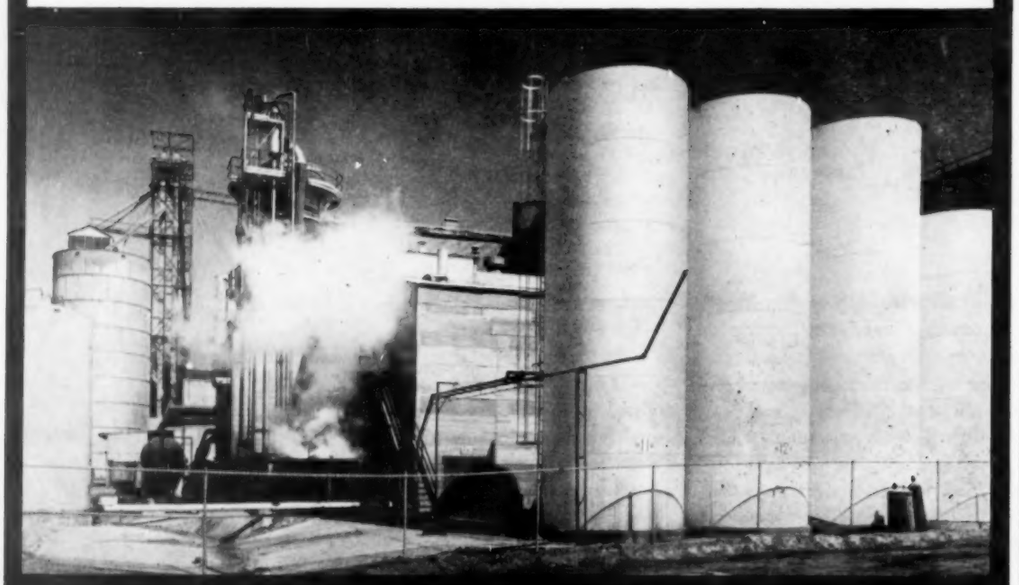

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Heavy Breed Poult Production Down, But All Breeds Up

WASHINGTON — It appears that predictions of expansion in heavy breed turkey production beyond that indicated in producers' January intentions may have been made in the wrong direction.

The total heavy breed poult hatch for the first two months of 1959 is below last year's.

However, sharp increases were recorded for heavy whites and light breeds, and the over-all picture points toward increased turkey production. Although an increase in heavy whites was reported, the climb was more than offset by a decrease in other heavy breeds.

With hatcheries approaching the heavy production season, the U.S. Department of Agriculture reports that February's heavy breed poult hatch of 4,614,000 is just under the February, 1958, total of 4,628,000, and the 1959 total for both January and February, 7,023,000, is 2% under the 1958 total.

Further cuts in production are indicated in that heavy breed turkey eggs in incubators March 1 totaled 15,577,000, compared with the 1958 figure of 17,115,000.

Producers had reported in January that they expected to raise 5% more turkeys in 1959 than in 1958—3% more heavy breeds and 16% more light breeds.

Total Picture

Although the current picture points to reduced production in heavy breeds, hatch numbers for all breeds continue to climb. February's hatch for all breeds was up 6% compared to the same month last year. For both January and February the total was 9,856,000, 10% greater than for the two months last year.

Production of heavy white breed poults totaled 1,101,000 in February, compared with 919,000 for the same month last year — a 20% increase. Other heavy breed poults totaled 3,513,000, compared with 3,709,000—a drop of 5%.

Turkey eggs in incubators March 1 indicate the number of heavy white and light breed poults hatched in March will be larger than in March, 1958. Comparative figures are 2,138,000 and 2,864,000 for heavy whites, and 1,761,000 and 2,696,000 for light breeds.

Light Breeds

Predictions indicating much stronger production of light breeds are substantiated by the increased number of turkey eggs in incubators March 1 and by a big jump in poults hatched last month. Compared with February, 1958, the number of light breed poults produced in February totaled 1,332,000—up 34% from February, 1958. This 34% increase added to the 77% increase for January makes a cumulative increase for the two months over last year of 54%—from 1,841,000 to 2,833,000.

K-State Announces Low Milling Facility Bids

MANHATTAN, KANSAS — Low base bids of $855,839 for construction of new flour milling facilities at Kansas State College have been received by the office of the state architect, the college has announced.

Included are the following: general contract, $397,970; electrical, $82,754; plumbing and heating, $173,557; laboratory furniture, $104,130.50; office equipment, $3,457.80; shop tools and benches, $423.27; shelving and cabinets, $2,979.65; architects' fees, $33,245; architects' construction superintendent, $19,406.38; physical plant, $9,317; contingency fund, $23,247. Also included in the $855,839 is a sum of $5,351.40 for mill equipment.

The state appropriation was not adequate to provide for equipment or installation of grain storage, cleaning house or milling facilities.

The total state appropriation was $1,421,454. Of this total, $565,615 is already earmarked for the renovation of East Waters Hall, including class lecture rooms to be used by students in the department of flour and feed milling industries.

New AFMA Members

CHICAGO—A recent bulletin from the American Feed Manufacturers Assn. lists 10 new member companies. They are:

Crown Zellerbach Corp., Chicago; Farmers Union GTA, St. Paul; Hercules Powder Co., synthetics division, Wilmington, Del.; Hooker Chemical Corp., Marysville, Ohio; Mel Miller & Co., Inc., Kansas City; Metals Disintegrating Co., Inc., pulverizing machinery division, Summit, N.J.; Seco, Inc., Goodlettsville, Tenn.; Sociedad Espanola De Nutricion Animal, S.A., Valladolid, Spain; Tranatogen-Werk Jakob Schwarzkopf K.G., Elmshorn, Germany, and VegeFat, Inc., Dupo, Ill.

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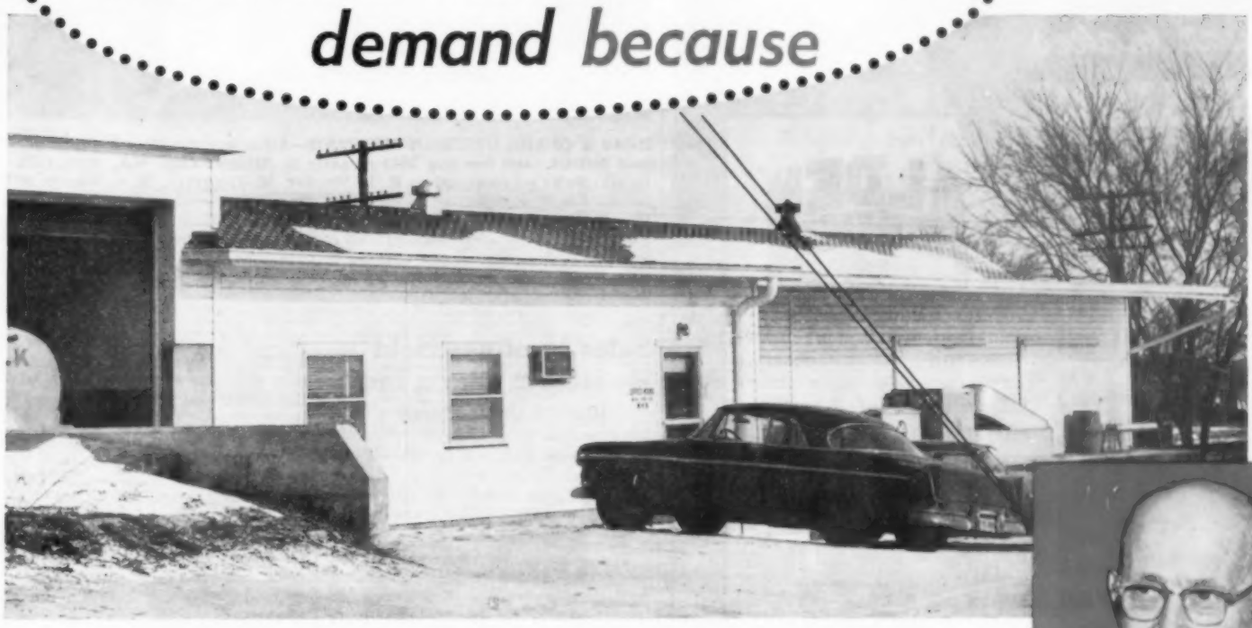

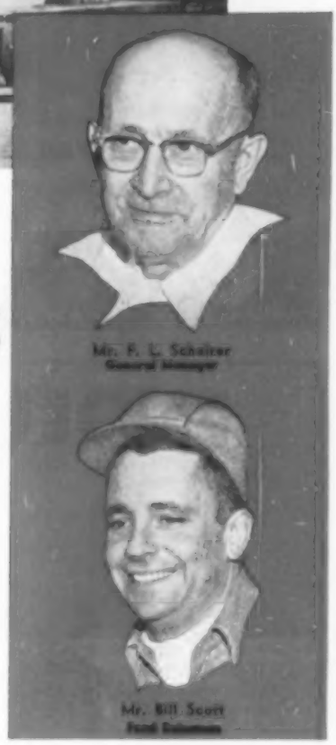

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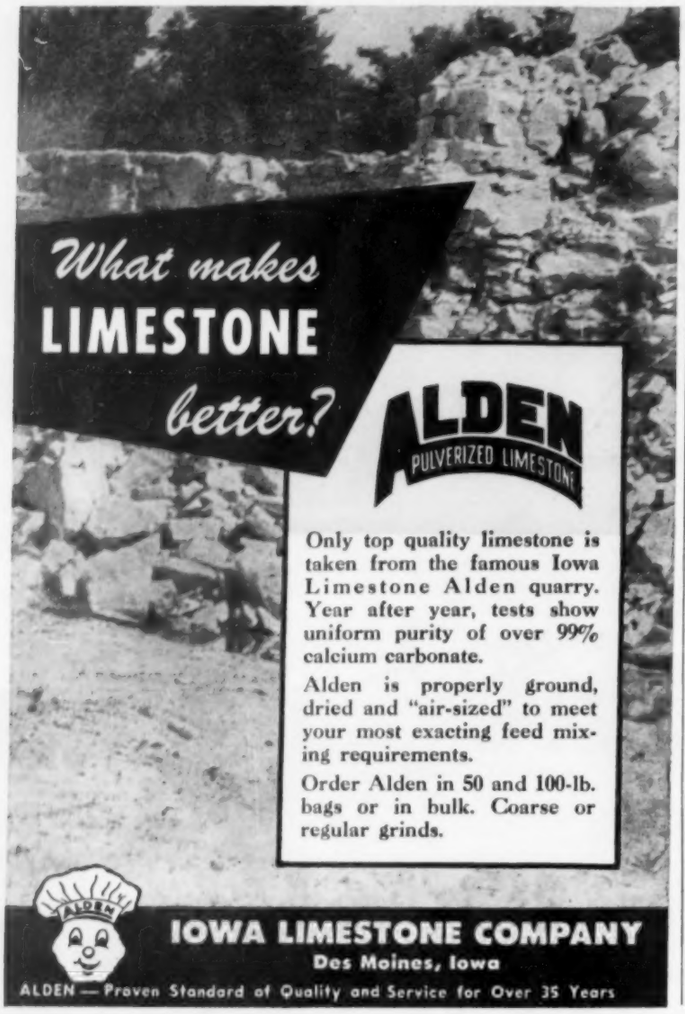
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HESS & CLARK DISTRICT MEETING—Attending the Hess & Clark northeast district sales meeting held recently in Atlantic City, N.J., were (left to right): Sales representatives R. P. Mueller, M. Mosgrave, M. C. Powell, J. R. Kenny and F. E. Speck, Jr.; R. H. Eshelman, vice president-marketing; J. F. Harman, northeast district manager; William A. Haffert, Jr., Garden State Publishing Co., guest speaker; Dr. A. L. Andrews, feed products manager; sales representatives R. P. Reincke, C. L. Arthur, L. V. Foster, Jr., and P. K. Schantz; B. L. Earhart, sales training manager, and J. P. Bartley, sales representative.

Sales Meetings Held By Hess & Clark, Inc.

ASHLAND, OHIO—Hess & Clark, Inc., manufacturer of health products for livestock and poultry, established sales plans for the coming fiscal year and completed the organization of a new sales district in a pair of recent meetings.

The sales plans were made at a week-long district managers meeting held here recently at the company's home office. Russell H. Eshelman, vice president-marketing, said the meeting was aimed at studying sales problems as well as areas of opportunity which may result in new ideas and procedures for continuing growth in the coming year.

Highlight of the meeting was a two-day sales school conducted by Dr. W. J. E. Crissy, president of Personnel Development, Inc., a consulting firm specializing in sales and executive selection, training and evaluation.

The second meeting was held at Atlantic City, N.J., where final steps were taken in organizing the northeast sales district.

John F. Harman, Philadelphia, district manager, said the salesmen were brought up to date on the latest developments and scientific research on feed medication and animal health products.

New sales programs were introduced and outlined for the company's products, and special attention was given the firm's nitrofuran product, nf-180 (furazolidone) which is used in poultry and livestock feeds to prevent and treat many specific and non-specific diseases.

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"Ful-O-Pep's new Pep-Mixing Program is helping dealers build volume in the tall corn country,"

says **H. W. COLE,** *Manager of Central Feed Division of The Quaker Oats Company, in this report to Ful-O-Pep Feed Dealers*

HAROLD COLE literally grew up in the feed and grain business. He managed grain elevators before joining The Quaker Oats Company in 1946. For the past nine years, he has been Manager of the company's country elevators. In 1955, he was also made Manager of Ful-O-Pep's Central Feed Division.

"Last year was another big year for mid-west farmers. Plenty of corn—plenty of oats and other grains, too.

"Now off hand, you might think that a surplus of grain would be bad for the feed business, because farmers with a lot of grain are usually not in the market for complete feeds.

"The fact remains that our aggressive Ful-O-Pep Dealers have shown excellent tonnage growth. Farmers today are business men and demand full-feeding value and top feeding results. With Ful-O-Pep's new Pep-Mixing Program, hog feeding plans and quality egg plan, our dealers are better equipped to help feeders reach their goals.

"I suppose our Pep-Mixing Program is a little bit different from most plans. We don't demand that our dealers follow this program. We simply supply the know-how and in a helpful way show dealers how to do business more efficiently!

"We train our men to figure costs, inventory control and grinding and mixing charges. They also counsel with dealers on concentrates, equipment and mixing formulas.

"This service, which is free to all dealers, is just one of the many ways Quaker is helping dealers increase their tonnage and profits, too."

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Interest in Corn Belt Feeder Calf Output Noted; Westerner Gives Tip

AMES, IOWA — Widespread interest in feeder calf production under Corn Belt conditions was evidenced by both cattlemen and researchers at the Iowa State College Cattle Feeders Day recently. Half of the program was devoted to this topic, with latest trials revealing that drylot calf production nearly matches pasture production.

"Beef cow numbers in Iowa and surrounding states have jumped 100% in just the last few years," pointed out S. A. Ewing, beef cattle scientist working with the cow-and-calf projects at the college's beef nutrition farm a few miles from the campus. "We need many more answers to all the questions we're getting."

Large groups of Iowa cattle feeders spent considerable time viewing the 80 head of beef cows now on various experiments in calf production. A number of trials include year-round confinement of beef cows, while others feature drylot plus corn field grazing only in the fall. Some trials involve blue grass pasture and improved pasture production. Economies of various creep rations, in conjunction with these types of production, are also being studied as to their effects on subsequent feedlot gains. Spring vs. fall calving, artificial insemination, production testing and other projects are to be drawn into this expanded work.

Mr. Ewing presented a broad background on the reasons for the stepped-up interest in feeder calf production in the Corn Belt, while Dr. William H. Burkitt, director of nutrition for the Montana Flour Mills Co., Great Falls, discussed present and future feeder calf production outside Iowa, both from the nutritional and economic standpoints.

Trends Outlined

Mr. Ewing's remarks on feeder calf production trends, as well as his summary of current Iowa research follow:

Certain population and agricultural adjustment trends in this country have intensified the competition among feeding areas for the feeder cattle supply. Several factors seem to be related to this situation and would seem to indicate that more feeder cattle must be produced in the midwestern states. Some of these factors are as follows:

a. An expansion of the total grain producing area of the U.S. due to irrigation.

b. The development of new crop varieties has expanded the adaptation of certain grain crops and promoted the development of new and important feeding areas.

c. A growing population in the West will make extensive cattle feeding in the West and Southwest more feasible with each coming year.

d. An increase in the national population of at least 3 million per year will increase the total beef requirement if per capita consumption is maintained at the current level.

e. Reduction in agricultural land due to public works and urban development.

f. A slow but rather steady depletion of the carrying capacity of the range areas.

Accompanying these conditions we have seen the number of beef cows increase in Iowa at a more rapid rate than the average of 11 western states.

The net income from beef calves raised in dry lot compared favorably with those raised on pasture when the capital value of the land was considered, Mr. Ewing reported to the cattlemen.

He pointed out that the estimated total cost of producing calves was higher in dry lot than in any other production program tested last year at the college's beef nutrition farm. The other systems were bluegrass pasture, grass-legume pasture and grass-legume pasture with creep feed. However, when the capital value of the land was considered, the net return per $100 invested in land was nearly equal, with the grass-legume pasture showing the poorest return.

It took only one half acre of tillable land to produce all the silage used to carry a calf from birth to weaning in dry lot. At $400 an acre, that meant only $200 land investment for each drylot calf. The drylot calves were worth an average of $142.89 or 33¢ lb. The total cost of feed and other current costs for the dams and calves in drylot was $104.39 a calf, Ewing said. This left a net return at the time of sale last summer of $38.50 a head.

Since the land investment was only $200, that meant the calves returned an average of $19.25 for each $100 invested in land.

The future will bring more and more competition in bidding for western feeder cattle, Dr. Burkitt pointed out. Among the reasons are more fattening in the West and packers' expansion in the area. Cattle fattening in the western states was up 23% in 1958, compared to the previous year. Reasons for the expanding fattening industry include population growth, local supplies of both feeder cattle and feed, recognition that grains other than corn are satisfactory, official encouragement of feeding and recognition that western feeders can compete favorably with Corn Belt feeders.

Western Operations

Dr. Burkitt went on to review practices in his area in producing feeder calves and said these principles would apply in Corn Belt breeding herds, too.

He noted that unless hay is of exceptionally good quality, most ranchers still feed fortified pellets.

After protein and energy requirements are taken care of, the next limiting nutrient on roughage rations

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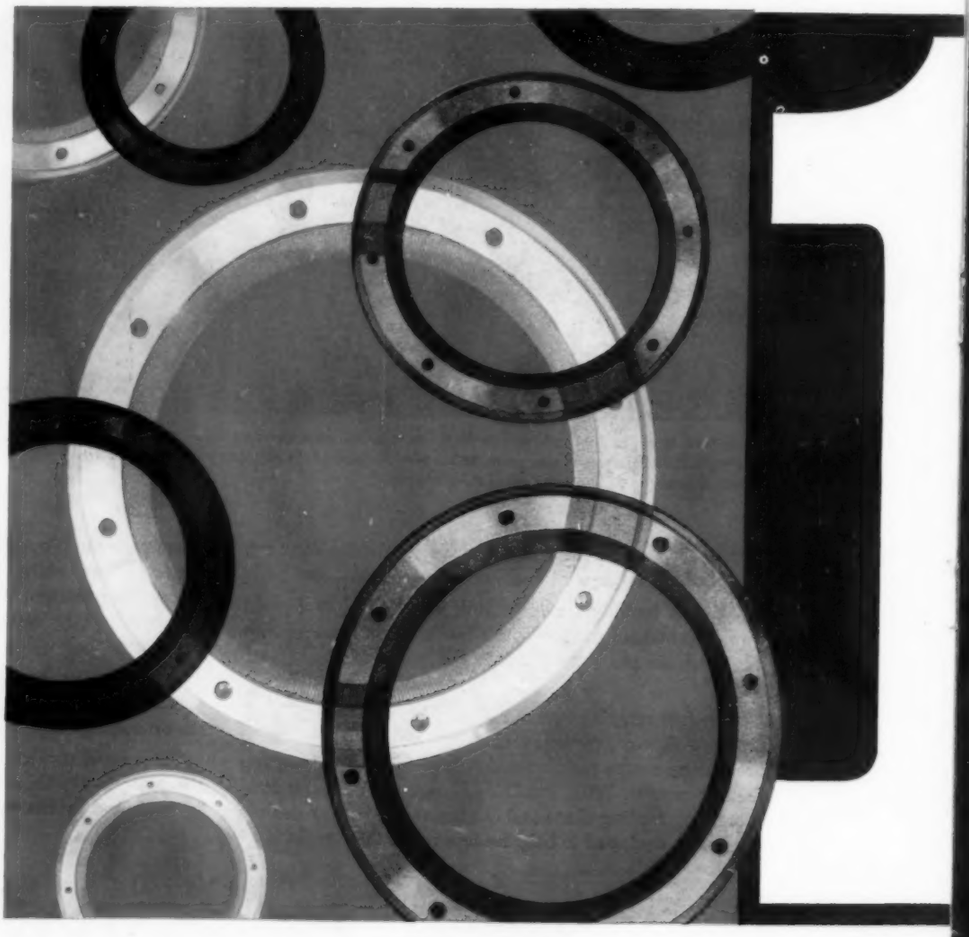

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is phosphorus. Dr. Burkitt said that generally the most economical way to provide phosphorus is in the supplement. He said he is not an advocate of free-choice feeding of mineral supplements to get phosphorus intake where it is feasible to include it in the daily feed. He criticized formula mineral products coming into Montana from the Corn Belt as "having too much calcium and not enough phosphorus." For all practical purposes, pregnant heifers and cows require as much phosphorus as they do calcium. Any mineral for supplementing roughage rations, he said, should be high in phosphorus and low in calcium.

Where phosphorus is needed and a good formula mineral high in phosphorus and low in calcium is not available, Dr. Burkitt said, the best choice in monosodium phosphate, which runs 20-24% phosphorus with no calcium. It has physical property drawbacks, but is satisfactory if consumption can be obtained. He said other supplements such as dicalcium phosphate and defluorinated rock phosphate contain more calcium than phosphorus and palatability and consumption are generally a problem under free-choice feeding.

A good formula mineral for breeding herds (roughage rations), said Dr. Burkitt, has a minimum of 15% phosphorus, a maximum of 10% calcium, is fortified with trace minerals, is palatable and acceptable without use of artificial flavors, and is available in crumbles, pellets or block form.

"I feel," he said, "that the formula feed industry in the Corn Belt should shoulder the responsibility of putting ruminant minerals for roughage supplementation on the market, formulation of which is based on the supplemental requirements of the cattle and not on the price of the mineral and the profit to be derived therefrom."

Dr. Burkitt also mentioned the need of pregnant cows and heifers for vitamin A. Fifty to 75 cents per cow each winter will buy sufficient vitamin A to protect against dead calves from vitamin A deficiency.

Creep Feeding

Creep feeding, he continued, is getting a new look by many range operators, who are using pelleted creep rations with additives with outstanding results. Creep feeding can result in 50-100 lb. of extra gain for a feed efficiency of 300 to 400 lb. of creep feed per 100 lb. of extra gain. And this gain costs less than the gain put on in drylot fattening.

Most ranchers, Dr. Burkitt pointed out, feed fortified range pellets with hay and/or winter grazing after calving until green grass comes. He went on to say it appears there is room for investigation to see what can be done by feeding the cow supplemental feed to produce more milk to put more gain on the calf rather than on a creep feeding program.

Dr. Burkitt also stressed the importance of proper feeding of replacement heifers. Additives proven to increase gains without harming breeding or reproductive performance should be used on wintering calves and wintering yearlings.

Looking to the future, Dr. Burkitt said there is only one way that feeder calf production in the West can go, and that is up. Continuing improvements in farming and feeding will enable operators to run more cattle and produce more feed. Along with increased feeder cattle production will be increased demand for expansion of fattening operations in the same area. Many ranchers now are setting up or expanding feedlots. Many have simple operations with rations of only hay, grain and a supplement with additives. Three pounds daily gain at a feed cost 12-16¢ lb. is not uncommon.

'Bigness' in Poultry Marketing Discussed

WASHINGTON—The same poultry industry trends that are forcing production into the hands of fewer, but larger, producers are at work in poultry and egg marketing organizations, it was agreed in Washington recently by representatives of farm cooperatives from the 14 northeastern states.

More than 25 poultry and egg cooperative organizations were represented at the two-day conference, sponsored by the division of cooperatives of the Northeastern Poultry Producers Council (NEPPCO) at the Willard Hotel. Assisting in the annual winter business management workshop was the Farmer Cooperative Service of the U.S. Department of Agriculture.

The trend toward "bigness" in the poultry industry is one that can be expected to be intensified in the years ahead, the cooperative delegates agreed. Most look for increased cooperation between groups, ultimately aimed at streamlined marketing and the possible consolidation of present plants of cooperatives.

Under scrutiny by the group was the proposed merger of some eight New England egg and poultry marketing cooperatives under the banner of the Eastern States Farmers Exchange, West Springfield, Mass. Also studied was the federated activity among Pennsylvania marketing cooperatives, and the possibility of further unification of effort among the several egg and poultry marketing groups in Ohio. Similar action is underway in Iowa, Minnesota, North Dakota and South Dakota, delegates were told.

Altogether, 39 marketing groups are part of the NEPPCO division of cooperatives, representing a marketing output of several million cases of eggs annually.

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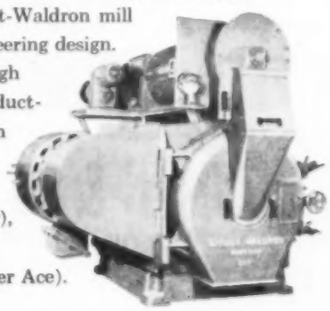

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Groups Urge Study of Forage, Diseases and Farm Programs

WASHINGTON — Research that would shed more light on improved forage legumes and grasses, costly livestock diseases and more effective farm programs are considered pressing needs by various advisory committees of the U.S. Department of Agriculture.

The USDA groups, composed of national authorities, are: Feed and forage research and marketing advisory committee, economics research advisory committee and livestock research and marketing advisory committee. Recommendations of the committees have been assembled for presentation to the USDA.

FEED SUGGESTIONS—The USDA's feed and forage research and marketing advisory committee noted that forage-rumen complex is extremely important to proper nutrition of livestock. The committee believes that functions of rumen microorganisms in breaking down feed constituents should be studied, as should the effects of feed itself—how it is processed, its chemical makeup and physical condition—on rumen metabolism.

The committee said that breeding studies for improved legumes and grasses would benefit from: (1) Development of better breeding techniques, (2) faster methods for screening seed and forage plants to determine their production potential, (3) discovery of improved disease and insect resistance and (4) analysis of various organic compounds in forages.

Other important farm research needs, committee members said, are study of the diseases of legume and grass crops, especially virus and crown- and root-rot diseases, of pesticide residues on forage crops, of hormones as aids to livestock production efficiency and of factors affecting efficient consumption of feed and forages by livestock animals.

The committee stressed also the need for basic research that will lead to better utilization of crops as feed supplements and industrial raw materials. To achieve this aim information should be sought on the isolation and identification of forage constituents and determination of their characteristics, the committee said.

Improved instruments and methods for measuring the quality of feeds and forage are the most important marketing research need, the committee said. Research should also be stepped up to learn ways of controlling the insects that attack stored feed and feed grains.

LIVESTOCK DISEASE CONTROL—Members of the livestock research and marketing advisory committee stressed the importance of having funds available to conduct studies at USDA's new National Animal Disease Laboratory at Ames, Iowa, scheduled to open late in 1960, and gave high priority to two proposals involving study of animal diseases.

One committee proposal is aimed at acquiring new knowledge of livestock parasites.

The other proposal by the committee is designed to develop more information about infectious diseases of livestock. These diseases—about 45 commonly known among cattle and 30 in swine—are responsible for an estimated annual loss of $817 million ($607 million for cattle and $210 million for swine), and much study is needed to establish successful control of them.

FARM PROGRAMS—The USDA's economics research advisory committee has endorsed two major approaches to the goal of providing background data for more effective farm programs:

(1) Increased basic research to measure the economic factors that affect the price, supply and consumption of major agricultural commodities.

(2) Research on probable effects of alternative farm programs.

Concerning farm costs and efficiency, the committee said the first need is for research on the effects of the use of high analysis fertilizers, plant-growth regulators, pelleted livestock feeds and feed additives and other new technology on the farm costs, output and income.

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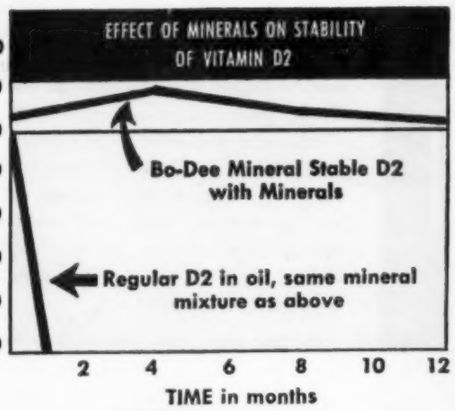

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Farm and Feed Salt NEWS

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- The College of Veterinary Medicine at Colorado State University reports that 4% salt in a total sheep ration prevents urinary calculi by making the animals drink more water.
- Phenomenal growth in livestock and poultry production is forecast for the coming decade. There'll be a need for 45 million laying hens every year and about 125 million broilers. Also needed will be 3 million extra milking cows . . . 5 million extra beef cattle . . . and 10 million extra hogs.

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A Review . . .

Dairy Calf Feeding Research

"It is apparent that a good milk replacer must be composed of milk products, animal fats and lecithin—plus vitamins A, D and E, niacin, antibiotic and trace minerals."

By Dr. Frank M. Crane
Land O'Lakes Creameries, Inc.

Dr. Frank M. Crane

AUTHOR—Dr. Frank M. Crane, research director, agricultural service division, Land O'Lakes Creameries, Inc., Minneapolis, is a native of Minnesota and received his B.S., master's and Ph.D. degrees at the University of Minnesota. From 1948 to 1951 he was an instructor in animal husbandry at the university.

Today the good dairyman is raising his calves on a milk replacer program and selling all of his marketable milk. With a good milk replacer, the dairyman simply feeds the colostrum milk for the first 3½-4 days and then switches his calves to the milk replacer. This enables him to sell all of his marketable milk.

There are many reasons why this is now possible. During the last several years, the thinking behind what constitutes a good calf milk replacer has changed tremendously. The very first milk replacer formulas were almost completely made of cereal products and were fed as gruels. In order for this type of a system to work, it was necessary to feed substantial quantities of whole milk. Later milk replacer formulas tended to have a higher and higher percentage of milk solids. These formulas were considerably more successful.

More recently it has been an accepted fact that the calf cannot utilize vegetable feed stuffs during the early weeks of life. Consequently, many modern day calf milk replacer formulas are completely made up of milk solids. Even more recently, research has shown that the addition of animal fats to a complete milk solids formulation increases rate of gain and makes for more efficient gains. The purpose of this article is to review a portion of the research work that has been conducted on feeding dairy calves.

It has been well established that colostrum is very important for the new born calf. Colostrum contains antibodies that protect the calf during the first few days of life against many diseases. During certain periods, the dairyman has an excess of colostrum milk. Research work at the University of Connecticut (1) shows that if extra colostrum milk is available, it can be readily fed to any calves receiving milk. In their tests, calves fed the colostrum milk gained as rapidly as those calves fed on normal whole milk. If there is an excessive amount of colostrum milk, it can be frozen and stored and fed at a later date.

VALUE OF MILK SOLIDS: Pennsylvania workers were among the first to investigate many types of calf milk replacer formulas. In one study Williams and Knodt (2) used formulas ranging in dried skimmed milk content from 40 to 65%. All formulas contained 10% dried whole whey, 15% distillers dried solubles, 5% oat flour, a mineral and vitamin supplement. Blood flour, fish solubles (condensed), butyl fermentation solubles, and a carbohydrate product were tested as a replacement for dried skimmed milk. The results are given in Table 1.

Calves fed formula IV which contained 75% milk solids (65% dried skimmed milk and 10% dried whey) gained 20% faster than any of the other groups. These calves were also taller and had a larger chest circumference. The high dried skimmed milk formula appeared to stimulate starter consumption. The authors concluded, "A relatively simple formula of dried skim milk, distillers dried solubles, dried whey, with sources of vitamin A and D, and essential mineral elements gave normal growth in the calves used in these experiments."

Pennsylvania State (3) investigators evaluated a special processed soy flour as a replacement for dried whey, distillers dried corn solubles, blood meal and a portion of the dried skimmed milk. High levels of this soy flour (66%) depressed appetite, retarded growth and resulted in poor physical appearance of the calves.

More recent experimental work by the Michigan workers confirmed the fact that the calf is unable to utilize the nutrients in vegetable feedstuffs. Nollar and co-workers (4) used a milk replacer composed of 53.4% corn, 34.0% soy flour, 10.0% distillers dried solubles, 1.5% steamed bone meal, .5% calcium carbonate, .5% salt and .1% of a vitamin-trace mineral mixture, in comparison with whole milk and evaporated milk. Table 2 gives the co-efficients of apparent digestibility.

It is apparent that the calf could not effectively utilize the nutrients in the cereal based milk replacer. This was especially true of the protein and fat. The investigators found that the calves did not start to utilize the nutrients in a cereal based milk replacer until they were over 75 days of age. This experimental work is in definite agreement with the experimental work of Jacobsen and Allen at Iowa State College (5). In a report entitled, "The Digestion and Absorption of Various Carbohydrates Posterior to the Rumino-Reticular Area of the Young Bovine," three young ruminating dairy calves with ruminal and cecal fistulas were fed four experimental diets directly into the omaso-abomasal cavity to determine their ability to digest and absorb carbohydrates from four sources—glucose, maltose, starch and corn. Digestibility studies and blood reducing sugar levels indicated that glucose was readily absorbed and maltose was readily (hydrolyzed and) absorbed. Similar criteria demonstrated very little digestion of starch and of carbohydrate of corn.

It is interesting that these two groups of investigators at both Iowa State College and Michigan State University found the same thing. It is also interesting to review the liter-

TABLE 1. Mean Daily Gains in Weight, Height and Chest Circumference and Average Calf Starter and Hay Consumption.

Group		Mean Daily Gains Wt., lb.	Ht. Cm.	Chest Circ. Cm.	Feed consumption Starter (lb.)	Hay (lb.)
I	(Carbohydrate product)	0.93	0.106	0.20	164	25
II	(No Carbohydrate product)..	1.00	0.11	0.18	154	29
III	(No blood flour)	0.75	0.08	0.18	137	13
IV	(High skim milk)	1.20	0.14	0.20	207	18
V	(Fish Solubles)	1.00	0.095	0.18	135	25
VI	(Butyl ferm. sol.)	1.00	0.10	0.18	181	11

TABLE 2. Co-efficients of Apparent Digestibility.

	Whole Milk	Milk Replacer (cereal based)
Dry Matter, %	94.8	55.1
Crude Protein, % ...	90.1	17.7
Ether Extract, %	97.8	24.0
N. F. E., %	97.1	78.3

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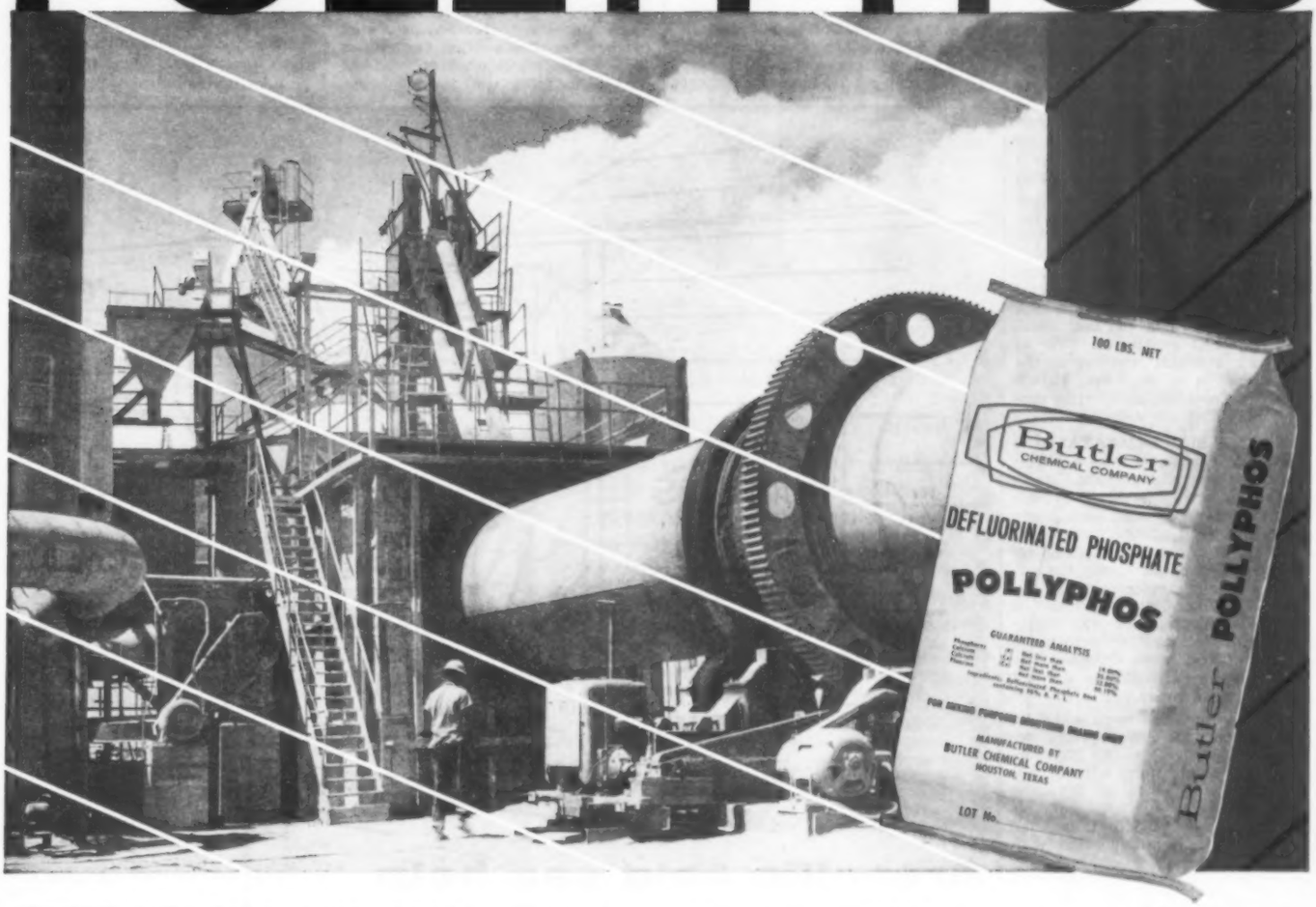

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TABLE 3. Relative Sizes of the Various Compartments of the Bovine Stomach.

Compartment	Newborn calf %	Mature cow %
Rumen (paunch)	25	80
Reticulum	5	5
Omasum	10	7
Abomasum (true stomach)	60	8

ature and we find that starch was used by Hull and Rettger (6), 1917; Maynard and Norris (7), 1922; Norris (8), 1925; and Shoptaw et al. (9), 1937 for calf feeding. They all reported that calves fed relatively large amounts of this carbohydrate in milk substitutes did not thrive, apparently due to poor utilization of the starch. Larsen (10), 1952, introduced corn starch into the abomasum without previous exposure to rumen processes. The starch appeared essentially undigested in the feces. The above information is not surprising when one takes a look at the marked changes that take place in the relative sizes of the various compartments of the bovine stomach as the calf matures to a functioning ruminant. The changes are effectively shown in table 3.

Table 3 shows that the rumen in the new born calf is a small portion of the bovine stomach, whereas the rumen in the mature cow comprises 80% of the bovine stomach. A comparison between the size of the abomasum in the new born calf and the mature cow also shows a striking difference. In the new born calf the abomasum (true stomach) constitutes 60% of the bovine stomach, whereas in the mature cow it is only 8%. Herein is the basic problem involved in properly nourishing the new born calf.

ENZYME SUPPLEMENTATION: An attempt was made by the Michigan State University workers (11) to supplement cereal based milk replacers with enzymes in order to improve growth and feed efficiency. Two experiments were carried out to determine the effect of supplementing cereal based milk replacers with enzymes. In the first experiment a vegetable milk replacer was predigested with malt diastase, papain and a combination of these enzymes. The cereal based milk replacers did not perform satisfactorily.

When the enzymes were added to these rations the investigators reported that there was no improvement over the rations without enzymes. For the first 40 days the calves fed the cereal based milk replacer gained only .38 lb. Calves fed the same formula predigested with malt diastase gained only slightly better (.47 lb. per day) for the same period. The group of calves fed the control formula plus papain and a combination of papain and malt diastase gained 0.10 and 0.35 lb., respectively. The authors reported that papain in the formula actually decreased growth, depressed appetite and may have increased mortality. In a second experiment with a similar basal formula, additions of pepsin increased gains slightly; however, the authors reported that this difference was not statistically significant. On the basis of this experiment, the Michigan State University workers definitely felt that the addition of enzymes to a cereal based milk replacer did not improve its utilization.

ANIMAL FATS FOR CALVES: In some of the earlier milk replacer formulas, dried skimmed milk supplemented with vitamins and trace minerals was used as the milk replacer. These diets were very low in fat and calves seldom grew as rapidly as they did on whole milk. There was always a greater incidence of diarrhea. Recent research has shown that calves require fats in their diet. Cunningham of Cornell (12) found that calves receiving a fat free synthetic milk developed leg weakness and muscular twitches within one to five weeks. They died unless a source of fat was supplied. The condition could be cured by feeding an artificial milk containing 4% lard and prevented by one containing 1-2% lard. In an effort to meet this requirement for fat, several different sources of fats have been used.

Wiese (13) observed that when soybean oil was used as a source of fat the calves grew poorly, scoured and appeared unthrifty. Whereas, the animals that received the rations prepared with lard showed good gains in weight, did not scour and appeared normal and healthy. Gullickson (14) et al. has shown that the vegetable oils are unsatisfactory as a substitute for butterfat in the feeding of the young dairy calves. Jacobson (15) showed that soybean oil could be greatly improved by hydrogenation. In the Minnesota experiments lard was well used but it was not quite equal to milk fat. Larsen (16) has reported that both lard and tallow are equal to butterfat in promoting growth when homogenized with a milk replacer diet.

An interesting paper was presented at the Cornell Nutrition Conference (17). The Cornell workers reported on a digestibility trial involving several types of fats. The results are given in Table 4.

TABLE 4. Apparent Digestibility of Total Fat of the Experimental Diets.

Diet	Total fat digestibility	Number of observations
1. Tallow	59.2	4
2. Cocoanut fat	65.4	4
3. Butter	67.3	4
4. Tallow plus lecithin	72.1	4
5. Cocoanut fat plus lecithin	95.6	5
6. Homogenized cocoanut fat plus lecithin	94.9	4
7. Grease	51.5	3
8. Grease plus lecithin	79.4	3

Tallow, cocoanut fat and butter were found to be rather poorly utilized. However, the inclusion of lecithin in the diet improved the utilization of cocoanut fat and tallow. In a second study, the digestibility of grease and grease plus lecithin was compared. Lecithin again markedly increased fat digestibility. The authors report that when this grease plus lecithin mixture was homogen-

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ized, the digestibility was increased to 93%.

DIARRHEA IN CALVES: Diarrhea is a primary concern in raising dairy calves. Not only is diarrhea a major factor contributing to the high rate of calfhood mortality, but it lowers resistance to other diseases, slows the growth rate and reduces the efficiency of feed utilization. No doubt, many times infectious agents are involved. However, nutritional and management factors also deserve attention.

In an Iowa study (18) the various components of milk type diets and their effects on the consistency of feces were evaluated. These investigators found that fat (milk fat) reduced the incidence of diarrhea. This is in agreement with the work of Gullickson (14) when they found that calves fed diets containing butter oil were less affected by scours than those fed diets containing oils having lower melting points. Why fat reduces the incidence of scours has not been determined. In their study the Iowa workers also found that by feeding a reconstituted whey product, they consistently produced a greenish-black watery diarrhea. A formula composed of reconstituted skim milk as a basal diet resulted in a much lower incidence.

The authors speculate that the whey product produces diarrhea due to a lactose-lactalbumin complex that may be present as a result of the browning reaction occurring during the heat treatment involved in processing some whey. They certainly felt that its high mineral content was one factor involved. Lactose may also be involved, but probably to a lesser extent. In their work they found that by increasing the mineral content of milk to four times normal, they produced a moderate diarrhea. Increasing lactose to twice normal increased diarrhea. Thus, it would appear that the combination of excessively high minerals and lactose results in a diarrhetic formula. Shoptaw (8) reported that soybean flour causes diarrhea in calves.

In 1955 Lassiter (19) published an excellent review on antibiotics for dairy calves. In this review it was shown that Aureomycin and Terramycin stimulated the growth rate of calves from 10 to 30% during the first 16 weeks of age. Most of this growth improvement results before the calves are eight weeks of age. In addition to improvement in growth, antibiotics appear to reduce the incidence of calf scours, increase feed consumption and feed efficiency, and improve the over all condition and well being of the animal. The inclusion of antibiotics in the rations of dairy calves seems to be best justified by the beneficial effect of these antibiotics in reducing calf scours and, thus, calf mortality. Any growth advantage afforded by these antibiotics during the early life of the calf becomes insignificant in a mature animal. Since this review, other antibiotics have been shown to be beneficial to the calf.

CALF STARTER PROGRAMS: Several attempts have been made to switch the calf to a dry formula at an early age. Murley (20) found it possible to eliminate whole milk after the colostrum feeding period and to discontinue milk replacer feeding after 30 days of age. In this work these investigators used a well balanced calf starter. In a further study at North Carolina (21) whole milk was fed up through 35 days of age. Using both a complex and a simplified calf starter, they were able to produce satisfactory gains in these calves, even though no milk was fed after 35 days of age. The simple starter produced satisfactory results. It was composed of 41.5% ground corn, 27% crimped oats, 25% soybean oil meal, 5% feeding cane molasses, .7% dicalcium phosphate, .3% ground limestone and .5% salt plus a vitamin A and D supplement.

TABLE 5.

Treatment		Increase in body weight (lb.)
A.	Pail on floor	45.5
B.	Elevated pail	33.5
C.	Nipple pail	32.5
D.	Nipple bottle	39.7
A.	Pail on floor	37.1
C.	Nipple pail	38.0
B.	Elevated pail	46.2
D.	Nipple bottle	31.6

Swanson's (22) experimental work shows why it is possible to wean these calves from a whole milk or milk replacer feeding program to dry feed at six weeks of age. This Tennessee worker has presented experimental evidence showing that calves start to ruminate during the second week. Rumination time increases rapidly to an average of nearly five hours per day during the sixth to eighth week period. Rumination time did not increase significantly after this period. Thus, it appears that the calf's rumen is, for all practical purposes, fully developed somewhere between six and eight weeks of age. Thus, when the rumen is functioning adequately the calf is no longer dependent on milk as a source of its nutrients. A less expensive ration can then be fed.

MANAGEMENT: In a Pennsylvania test Kesler (23) compared several different methods for feeding calves. Table 5 gives the method of treatment and the increase in body weight over the initial weight.

Table 5 shows that calves fed with the pail on the floor during the first test gained the most weight. In the second test there was no difference between a pail on the floor and the nipple pail feeding. In the last test the calves fed from an elevated pail gained faster than those calves from a nipple bottle. All calves were fed milk to six weeks of age. The authors conclude that there are no significant differences in gains or incidence of scours whether calves were fed with the nipple or off the floor. Pail fed calves consumed their milk more quickly than did the nipple fed.

SUMMARY: A review of the scientific literature shows that a tremendous amount of research has been

effective!

If you have a supplement, concentrate or complete feed for swine or poultry which is not fortified with Arsanilic Acid, make the change to more effective feeds . . . *all season long* . . . by adding Arsanilic Acid to your full line.

You'll enjoy the easier resale work that results from addition of this low-cost growth stimulant to your feeds.

***Here is a checklist of 23 types of feeds to be fortified with Arsanilic Acid**

Type of Feed	Add Pure Arsanilic Acid per ton of feed†
BROILER FEEDS	
☐ Chick Starting Feeds	90 grams
☐ Growing Feeds	90 grams
☐ Broiler Finishing Feeds	90 grams
☐ Medicated, trouble-shooting Feeds†	90 grams
☐ Supplements, Concentrates	††
LAYER FEEDS	
☐ Breeder Feeds	90 grams
☐ Pullet Developer, Growing-type Feeds	90 grams
☐ Layer Feeds	90 grams
☐ Trouble-shooting Feeds†	90 grams
☐ Supplements, Concentrates	††
SWINE FEEDS	
☐ Sow and Pig Feeds	90 grams
☐ Pig Starters	90 grams
☐ Creep and Pre-Creep Feeds	90 grams
☐ Growing Feeds	90 grams
☐ Finishing Feeds	90 grams
☐ Breeder Feeds	90 grams
☐ Trouble-shooting, Conditioning Feeds†	90 grams
☐ Supplements, Concentrates	††
TURKEY FEEDS	
☐ Starter and Pre-Starter Feeds	90 grams
☐ Growing and Finishing Feeds	90 grams
☐ Mashes, Crumbles and Pellets	90 grams
☐ Trouble-shooting Feeds†	90 grams
☐ Supplements, Concentrates	††

†In first and second line of complete feeds, medicated and trouble-shootings feeds, use 90 grams of pure Arsanilic Acid or one pound of PRO-GEN® 20% Premix per ton of feed to give benefits which only this effective low-cost additive can provide. **One pound PRO-GEN® 20% Premix contains 90 grams pure Arsanilic Acid.**

††Amount of Arsanilic Acid used varies in direct proportion to the amount of grain added or with protein level of concentrate or supplement so that up to 90 grams of Arsanilic Acid is provided per ton of complete feed or of total feed eaten. Complete information in Technical Information Folder—Bulletin No. F-400 entitled "How to Fortify and Label Feeds with PRO-GEN® (Arsanilic Acid)."

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conducted on feeding the dairy calf. Scientists have shown that large changes take place in the relative size of the various compartments of the calf's stomach. The abomasum (true stomach) is the major compartment during the first few weeks of life. However, at two to three weeks of age the rumen starts to develop and by the time the calf is six to eight weeks of age, the rumen is well developed. These changes have a major effect on the nutritional requirements of the calf.

Several calf milk replacer experiments show that as the milk solids (particularly dried skimmed milk) are replaced in the formula with soy flour, oat flour, corn meal and blood flour that gains are reduced and the general appearance of the calves is rougher. These experiments show that the vegetable feedstuffs are passing through the digestive tract, in some instances, untouched. Failure of the calf to utilize these nutrients occurs during the period in which the abomasum (true stomach) is the major compartment and just as the rumen is starting to develop. Apparently these vegetable feedstuffs are not utilized due to an enzyme insufficiency.

Research workers have supplemented these cereal based formulas with many different enzymes. The enzymes used have failed to improve the utilization of these diets. It would appear that the greatest opportunities toward reducing the cost of milk replacer formulas lie in finding enzymes that will substantially enhance the calves' ability to utilize these vegetable feedstuffs.

Fats have played a key role in the success of milk replacer formulas. Research has shown that calves require a dietary source of fat. In general, animal fats have been more successfully utilized than the vegetable oils. Corn oil, cottonseed oil and soybean oil have not proved satisfactory, however hydrogenated soybean oil has given good results. In most cases, lard and tallow were equal to butterfat in promoting growth. Researchers have shown that the addition of lecithin and homogenization markedly increase the digestibility of the fats.

Diarrhea still remains a problem in calves. Most cases of diarrhea are caused by infectious agents, however, scientific investigators have shown that certain types of formulations are more conducive to scours than others. Formulas containing fats reduce the incidence of diarrhea. Certain types of whey contain a high percentage of minerals and lactose. These are much more prone to produce diarrhea. Some investigators have reported that soy flour tends to increase diarrhea.

Antibiotics have found a definite place in both calf milk replacer formulas and calf starters. Antibiotics will improve growth, improve feed efficiency, increase feed consumption and reduce scours in calves. The reduction of scours and the subsequent reduction in mortality is the most important factor.

From the research that has been presented, it is apparent that a good calf milk replacer must be composed of milk products, animal fats and lecithin. The major share of the milk products must be dried skimmed milk in order to assure a non-diarrhetic formula. In addition to these ingredients, the good milk replacer formula will contain added vitamin A, vitamin D, vitamin E, the B vitamin (Niacin), an antibiotic and trace minerals. With a formula of this type, a calf can be switched from the colostrum milk at approximately 3½-4 days to the milk replacer. This enables the dairyman to sell all of his marketable milk. Only a limited amount of this type of milk replacer need be fed during the first six weeks, if a high quality calf starter is included in the program.

Calf milk replacers have become a real part of every dairyman's calf raising program. Many dairymen report better results with a calf milk replacer and calf starter feeding program than with their old whole milk feeding program.

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(Turn to page 64)

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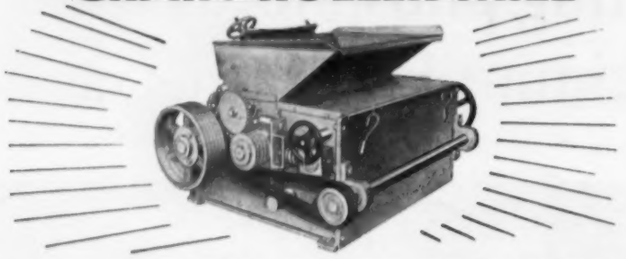

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FEED STORE SOLD

SAN JOSE, CAL.—The San Jose Feed & Farm Supply Co. has been sold by its four partners, Herbert J. Ravel, William Ravel, Alvin Ravel, and Ethel F. Blumberg, to Stanley R. James, who is now the sole owner.

R. H. Farmer Herman G. Powers

Promotions Announced By Smith-Douglass

NORFOLK, VA.—R. H. Farmer, vice president and general manager of Texas City Chemicals, Inc., a wholly-owned subsidiary of Smith-Douglass, Inc., Norfolk, has been named general manager of production for the company's chemical division with headquarters in Norfolk.

He has been replaced as general manager of Texas City Chemicals by Herman G. Powers, formerly assistant fertilizer division production manager.

On Aug. 1, Waldo R. Mowen, office manager and secretary of the Coronet Phosphate division in Plant City, Fla., will become assistant to W. Farley Powers, Smith-Douglass secretary. He will be responsible for credit extensions and collections and will headquarter in Norfolk. The announcement was made by J. A. Monroe, Smith-Douglass operations vice president.

W. R. Mowen

Mr. Farmer, a native of Canada, is a graduate of the University of Alberta and a post-graduate of the Massachusetts Institute of Technology. He was a superintendent of uranium for 10 years at the El Dorado Mining & Refining Co., Port Hope, Ont., and he has been with Coronet Phosphate Co. since 1952. He was named vice president and general manager in 1958.

Mr. Powers is an engineering graduate from Virginia Polytechnic Institute and he has a master's degree in industrial management from Harvard Graduate School of Business Administration. He joined Smith-Douglass in 1949.

Mr. Mowen has been an employee of Coronet Phosphate Co. since 1945. He was named assistant secretary and treasurer in 1949.

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Disease must be controlled to give feed and birds a fair chance to produce meat at a profit. Control disease and most growers can make out, even in tough years.

How then to get the widest, most effective protection against disease? There is *one best way* . . . by including in your feeds the one medication that prevents and controls more turkey diseases than any other drug. That's nf-180.

You need take only two steps to make "nf-180 protective feeding" available to your feeders and growers:

1. Medicate all prestarter and starter feed with 2 lbs. nf-180 Concentrate (100 grams furazolidone) per ton of complete feed, and
2. Make a Booster feed containing 4 lbs. nf-180 Concentrate (200 grams furazolidone) . . . for flexible nf-180 dealer custom-mixing to meet different field situations in a hurry.

With nf-180 protective feeding on the job day in and day out, you'll reduce your financing risk . . . and also the expense of many service calls. This can all add up to a sounder year in the turkey feed business.

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Start poults on 2 pounds of nf-180 per ton of total feed

Poults off to a fast, healthy start have a much better chance to finish out at top grade . . . return more profit over cost. Every one that dies is an outright profit loss . . . every poult you protect from early-life disease is a potential money-maker for you. That's why disease-fighting benefits of nf-180 pay off big. Fortified with nf-180, turkey starter feeds protect poults from a wide range of diseases.

In fact, no other drug (antibiotic, sulfa, arsenical . . . anything) prevents and controls as many diseases as nf-180.

Disease hazards face a poult from the day it is hatched. Egg-transmitted diseases may even endanger the young poult's life before it gets a start . . . may cause heavy early week mortality.

nf-180 fed at 2 pounds per ton of total feed, markedly reduces losses due to egg-transmissible diseases. In addition, it helps poults fight both identified and unidentified or sub-clinical diseases to which they are continually exposed. Free of the constant disease fight, your poults make better use of feed. For example, tests at a Midwestern university showed nf-180 gave 8% better feed conversion. Proof that poults grow faster, reach selling weight with a market-topping "nf-180 finish."

The cost of this wide-range disease protection is about 4½¢ per poult...for disease and stress protection from day-old to 8 weeks. Only a few cents more protects a bird all the way to market.

Continuous nf-180 protective feeding for growing and finishing

Even with best management, dangerous stress periods and unexpected disease outbreaks can occur any time . . . break through flock resistance and cause heavy mortality.

That's where continued protective feeding with nf-180 fits into turkey growing profit plans. Continuous protective feeding of this lifesaving nitrofuran is an "internal management" program . . . provides birds with the extra resistance they need to fight off disease and keep gaining through stress periods.

Four years of testing at a Midwestern university showed that in addition to superior disease protection, continuous nf-180 protective feeding improved feed conversion . . . stepped up growth rate, and reduced total mortality by 11 percent. Birds also showed a better finish. Researchers found that nf-180 protected birds required 8 lbs. less feed to reach market weight, saving about 3 cents feeding cost per pound of gain.

And nf-180 does its disease-fighting job in a unique way — by starving germs — letting no resistant strains build up. nf-180 is used up as it works . . . there is no waste or harmful side effects. It's safe to use throughout the entire life of your flock . . . and with birds of all ages, including breeders.

on nf-180:

controls more turkey any other drug...

Comparison of nf-180 (furazolidone) with other drugs used in turkey feed medication

DRUG	Growth Stimulation	Typhoid & Pullorum	Paracolon	Paratyphoid	C.R.D. Sinusitis	Blue Comb	Hexamitiasis	Synovitis	Ulcerative Enteritis (Quail Disease)	Blackhead	Stress Periods
*nf-180 (furazolidone) Level (grams)	YES 7½-10	YES P-50 T-100	YES P-100 T-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-100 T-200	YES P-50 T-100-200	YES P-50 T-100-200	YES P-100 T-200	YES P-50 T-100
Chlortetracycline Level (grams)	YES 7-10	NO	NO	NO	YES P-50 T-100	YES P-50 T-100	YES P-50 T-100	YES P-100 T-200	NO	NO	YES P-50 T-100
Oxytetracycline Level (grams)	YES 7-10	NO	NO	NO	YES P-50 T-100	YES P-50 T-100	YES P-50 T-100	YES P-100 T-200	NO	NO	YES 50
Bacitracin Level (grams)	YES 7-10	NO	NO	NO	YES P-50 T-100	YES P-50 T-100	NO	NO	NO	NO	YES P-50 T-100
Penicillin and Streptomycin Level (grams)	YES 2-5 (for penicillin)	NO	NO	NO	YES 75 Strep 25 Pen	YES 75 Strep 25 Pen	YES 75 Strep 25 Pen	NO	NO	NO	NO
Penicillin Level (grams)	YES 2-5	NO	NO	NO	YES T-100	YES T-100	NO	NO	NO	NO	NO
Penicillin and Bacitracin — 37½B plus 12½P Level (grams)	YES 5 Bac 1 Pen	NO	NO	NO	YES P-50	YES P-50	NO	NO	NO	NO	NO
Erythromycin Stearate	NO	NO	NO	NO	P-? T-YES	P-? T-YES	NO	P-? T-YES	NO	NO	NO
2 - Acetylamino 5 - Nitrothiazole	NO	NO	NO	NO	NO	NO	NO	NO	NO	P-YES T-YES	NO
4 - Nitrophenyl Arsonic Acid	NO	NO	NO	NO	NO	NO	NO	NO	NO	P-YES T-NO	NO
A Sulfa—Tin—Arsenical Combination	YES	P - ? T - NO	NO	NO	NO	P-YES T-NO	P-YES T-NO	NO	NO	NO	NO

KEY: P: Prevention level in grams per ton of complete feed
T: Treatment level in grams per ton of complete feed

*Each pound of nf-180 contains 50 grams of furazolidone

Why take chances with drugs that fight only one or two diseases? Seldom do diseases strike singly. Associated diseases and opportunist organisms are usually waiting to attack weakened birds. nf-180 is the *one* drug . . . the only one . . . offering wide-range effectiveness. It prevents and controls: blackhead, typhoid, paratyphoid, pullorum, paracolon, hexamitiasis, CRD (air sac), blue comb (nonspecific enteritis), ulcerative enteritis (quail disease), and synovitis.

Besides these recognized diseases, there are a host of hard-to-diagnose, hidden infections that sap vitality and retard growth . . . rob your birds of energy even when they may seem to be doing all right. nf-180 protects birds against stress. Growers find that continuous feeding of nf-180 keeps most sub-clinical infections well below the danger level. nf-180 is completely safe, nontoxic. It is palatable, stimulates feed intake, improves growth and feed conversion.

Turkey growers report on nf-180:

"Had 96.7% livability on 15,000"

Last year this grower started 15,000 T. Whites on 2 lb. nf-180 in the feed. Liked growth and livability up to ranging time, decided to continue with 2 lb. level in feed right on to finish. Said: "Results were wonderful . . . no real disease outbreaks at all . . . sold 14,540 birds . . . 96.7% livability . . . the best we ever had." This year started 15,000 more on 2 lb. nf-180 in feed. Got up to 12 weeks without a disease problem. Then grower changed to a new drug given him *free* to try in his feed to prevent blackhead. He had some blackhead outbreaks, and reported: "It didn't do the job nf-180 did. Even free, this new drug cost us money to use. We'll go back to nf-180."

"nf-180 gave us trouble-free season"

Turkey broiler grower had 8,000 on 2 lb. level of nf-180 from start to finish. Got to market without any disease troubles. Then put in another 8,000 for regular market. Kept these on 2 lb. level for 14 weeks and dropped to 1 lb. nf-180 per ton on to finishing. This flock just as trouble-free as first one.

"We wouldn't be without it"

Grower keeps poults on feed with 2 lb. nf-180 all through brooding period and first week on range. This stopped most all early mortality. During growing period he uses 2 lb. nf-180 stress feed whenever birds look like they need it. Says: "We like this protection . . . wouldn't be without nf-180."

"Practically stopped paracolon losses"

Paracolon losses among poults had this grower in real trouble. His state lab recommended starting birds on 2 lb. level of nf-180. Said: "nf-180 practically eliminated death losses from this disease. Poults made better gains and we got by on less feed."

"nf-180 pulled us through tight year"

Grower reported: "We couldn't have stood our usual mortality losses this year the way prices were. Using nf-180 kept disease down so we came through with very little trouble. Better feed conversion saved us money and our birds finished out well. Got a top price. Don't believe we could afford to raise turkeys without nf-180. especially in a tight year."

"Finished best flock in years"

This grower's last flock had made poor gains, suffered frequent off-feed periods and disease setbacks. His feed serviceman suggested nf-180 in the feed this year to prevent these troubles. Birds were started on 2 lb. level nf-180 feed and kept on it all through brooding period. Grower liked the size, vigor and livability of his flock so well he decided to continue 2 lb. level on to marketing. "Our death losses were the lowest and finish the best we'd had in years," he said.

Look how easy it is to set up an nf-180 protective feeding program! Here's how to do it

Consider the disease protection offered by an nf-180 medication program, and you'll want to join the many successful nf-180 users. Here are feed medication plans that fit your needs:

1. **STARTING PERIOD** . . . use 2-lb. level nf-180 in all feed from start, through brooding period and first week on range.
2. **GROWING-FINISHING PERIOD** . . . check your past history and local area disease problems. Choose the protective feeding plan you need:

- 2 lb. level nf-180 continuously should be used to protect against blackhead, hexamitiasis and other diseases.
- 1 lb. level nf-180 continuously* gives wide protection against stress and most diseases where blackhead and hexamitiasis are not likely problems.
- week-a-month plan* for areas where disease is not a serious problem. Many growers report good luck using a 2 lb. level nf-180 stress feed one week a month to clean up birds, fight stresses, and knock out disease organisms before they can build up and trigger trouble.

Try nf-180 protective feeding . . . from start to finish. You'll experience the most disease-free season . . . market the best birds you ever had . . . with an "nf-180 finish," and gain extra profits.

Drug levels

nf-180 levels always refer to pounds of nf-180 per ton of complete ration. If nf-180 is added to supplements and concentrates, then proportionately higher levels must be used to compensate for drug dilution by grain. A 2 lb. level of nf-180 per ton appears on tags as 0.011% furazolidone.

For local mixing, *nf-180 Custom Mix Ten* is available (10 grams furazolidone per lb.). This is one-fifth the drug concentration of regular nf-180. To achieve the same drug level, 5 times the amount is needed per ton.

* If disease outbreaks should occur on these low-level nf-180 plans, higher levels (2 and 4-lbs nf-180 per ton) can be used as specific treatments. Ask your feed man for proper levels and lengths of feeding periods. nf-180 tablets are mighty helpful to treat the first few sick birds noticed to check trouble while nf-180 medicated feed is being put in for flock treatment.

nf-180®
brand of
furazolidone

HESS & CLARK, Inc.
ASHLAND, OHIO
Division of Vick Chemical Company

LITHO IN U.S.A. D&J-58

Country Elevator's Problems Bared at Washington Event

WASHINGTON — The resentment the country elevator man has for the government's building of bin sites in his market and difficulties he is experiencing with regulations of the Food & Drug Administration formed the core of an address given recently by Charles S. Force, vice president, Grain & Feed Dealers National Assn.

Speaking here before more than 100 members of Congress, U.S. Department of Agriculture officials and other guests at the second Washington Workshop sponsored by the GFDNA, Mr. Force said, "Our free marketing system that so many men of my age have become accustomed to is being badly disrupted. . . . I do not feel that there is an elevator man in the country that hasn't resented the building of government bin sites in his market."

He said the grain placed in these bins was the grain that the elevator formerly purchased from grain producers and was merchandised to realize the most profit to the farmer and the elevator.

"Every country warehouseman shudders when he thinks of the future with federally owned bin sites in his back yard and when he realizes that the Commodity Credit Corp. owns a total of nearly one billion bushels of grain storage space," he said. "County and state officials also realize that they have no tax revenue future from CCC-owned bin sites."

In Mr. Force's opinion, farmers, elevator men and terminal operators feel the need for free marketing in the handling of grain. Stagnation of grain markets, he said, has been caused by accumulation of surpluses through price support provisions.

Commenting on Food & Drug Administration regulations, Mr. Force, who is a partner in the Little Brothers grain and feed firm at Kalamazoo, Mich., expressed disdain for the grain sanitation program which "has worked a severe hardship on country shippers because they do not have the time, the equipment or experience to carefully check every truck load of grain from a farmer." He remarked that "the elevator man is at the mercy of the Food & Drug Administration under circumstances where he cannot protect himself."

"We all endorse programs to protect the health of consumers," Mr. Force said. "But programs of grain sanitation should begin at the farm. The elevator operator should not have to be responsible for maintaining and enforcing the entire grain sanitation program."

The speaker gave some praise to the government. Mr. Force found pleasure in noting that "it was unnecessary for CCC to purchase additional government-owned storage units during the last two years." He said the GFDNA believes the policy of "this" administration and the "previous" administration to fill privately-owned storage before filling CCC storage "is sound and in line with the wishes of Congress."

Congratulates USDA

He also congratulated the USDA and Congress for the development and operation of the subsidy-in-kind export programs for wheat and coarse grains.

The programs, said Mr. Force, have effected sizeable savings of government funds, have afforded all segments of the grain industry an opportunity to revitalize themselves and have helped the selling of coarse grain acquired at country points from private merchants at the interior markets for export shipment.

Mr. Force noted that in the Midwest farmers expect their local grain elevator to have modern grinding and mixing facilities, and these customer demands have created problems and changes.

He said studies have shown that farm customers come to and depend on their country elevator for advice on when to sell their grain, feeding programs, rate of seeding, fertilizer applications and grain storage problems on the farm.

Poultry Plan Proposed

PHILADELPHIA, MISS. — The Philadelphia-Neshoba County Chamber of Commerce conferred recently with three representatives of a major feed company from Jackson for the purpose of securing information on pullet and egg production programs. A poultry committee has been appointed by the chamber to investigate and develop a poultry and egg production program in Neshoba County which would add to the county's economy, if sufficient farmers become interested in the program. The committee plans to arrange another meeting with the representatives to get contracts underway when the required number of farmers have expressed their desire to go into either pullet or egg production.

GIVE HIM ADVICE HE'LL APPRECIATE

Remind him to order Morton T-M Salt. See page 79.

Your Profit Line for '59

DORSEY BULKMASTER

BODIES AND TRAILERS

MODEL B-H

This deluxe Bulkmaster carries as much as 25% more payload than lower-priced bodies and features hydraulically-operated auger unloading. Extra big discharge system—12″ vertical and 9″ horizontal and final discharge augers—unloads the body quietly, fast. Deluxe Model B-A with medium pressure air unloading system and 30″ rotary air lock feeder also available.

MODEL F-M

All-steel electrically-welded unit with ribbed body and heavy-duty bumper. Multi-stage auger flighting prevents jamming and friction clutch stops augers safely when foreign objects impede them. 10 and 12-foot body lengths. Sliding hatch covers are 32″ x 32″ with foam rubber seals.

MODEL BB-H

Handles bulk or bags with ease and efficiency. Completely hydraulic unloading system with 9″ vertical and 6″ horizontal and final discharge augers for fast, trouble-free unloading. Lightweight removable floor plates protect conveyor and permit use of compartment bulkheads for split deliveries. Air unloading bag and bulk model available.

MODEL BT-H

High cubic capacity combined with fast unloading for real profits! Equipped with 25 h.p. air-cooled auxiliary engine for versatility and efficiency. Same deluxe unloading features as Model B-H. Also available in air model.

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See your local Dorsey Bulkmaster distributor or wire collect—

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BUILT TO LAST
Lemanco
INSIDE BULK FEED BINS
Four Door 7618-48-4D 4 Ton
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Over Automatic Feeder 7540-36G 3½ Ton 7540-48G 4 Ton 7636-48G 5 Ton
Auger Feed 7540-36A 3½ Ton 7540-48A 4 Ton 7636-48A 5 Ton
Economical per ton storage, plus convenience . . . that's the answer to the popularity of LEMANCO all-steel bins for poultry houses and other types of bulk feeding operations.
Bases—all welded 14 gauge steel; sides—16 gauge galvanized steel; legs—¼" angles. Specially formed corners for extra reinforcement.
Make your investment pay over the long haul. Write today for further information.
Feed Barrow
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Michigan Dairy Plans 1,200-Cow Pool to 'Assure Milk Supply'

BERRIEN SPRINGS, MICH. — Michigan's first cow pool is being organized here by an independent milk company. It is patterned directly after the much-publicized Fashion Farm Cow Pool, Meservey, Iowa.

Jack A. Dean, president of the Dean Milk Co., sponsor of the pool, expects to have between 300 and 500 cows signed within 90 days. The goal is 1,200.

Pool milk will be marketed through Dean's Dairy, Inc., Berrien Springs. Mr. Dean said one reason for the formation of the pool is to guarantee the dairy a steady supply of grade A milk.

Cow owners who join the pool sign a three-year contract and agree to pay $30 board per cow at the time the animals are placed in the pool and $30 a cow at the beginning of subsequent years. This money is used for payments on buildings and equipment.

A monthly accounting of expenses is to be made. All expenses, except grain, but including roughage, labor, electricity, veterinary fees, heat, accounting and other overhead (excluding management fees) will be apportioned among all cows in the pool. The cost of grain and breeding shall be on a per-cow basis, and will be deducted from the gross amount due the owner at the end of the month.

For its management services over and above the $30 per cow yearly, the management of the pool shall receive 5% of the net income of all cows in the pool, or a minimum of 50¢ per cow each month, which shall be charged to and deducted from the account of each owner, pro-rata per cow, on a per cow-month basis, which shall be in addition to all other labor expenses of the pool.

In return, prospective cow owners are being told by the company that it hopes to return a net income of around $100 annually for a 10,000-lb. cow. The dairy currently pays its 49 producers the grade A rate of the South Bend federal order area.

Mr. Dean said he expects the pool to attract the small-scale dairyman, the man considering going out of business rather than investing in the equipment and housing necessary to conform with grade A standards.

Other prospective owners, he said, are non-farmers seeking ways to invest.

Charles Rasmussen Van Ambrose

PROMOTIONS — Promotion of two sales executives by Honeggers' & Co., Inc., Fairbury, Ill., has been announced by Elmer S. Roth, vice president and general sales manager. Charles Rasmussen, former east-central division sales manager for the feed manufacturing firm, has been promoted to director of education and training, and Van Ambrose, with Honeggers since 1956, has been named to fill Mr. Rasmussen's vacated sales post. Mr. Rasmussen joined Honeggers in 1957 after eight years with a large milling firm. In his new post, Mr. Rasmussen will develop management training programs for company sales personnel and will be responsible for farm service schools, sales clinics and the preparation of sales training literature and films for Honegger dealers. Mr. Ambrose had been chick sales manager since April, 1957.

Poultry Processing

MORTON, MISS. — The B. C. Rogers & Son poultry processing plant at Morton has increased production to 12,500 birds an hour. The plant's production is running about 400,000 a week. Mr. Rogers has bought six new grain trucks, two new transport trucks and two new trailers, one of them refrigerated.

ANIMAL FEED
SUGAR
IMPROVED NATURAL PALATABILITY, HIGH ENERGY VALUE. UNADULTERATED BY CHEMICALS OR OTHER ARTIFICIAL FLAVORING
BE SAFE WITH SHUG-R-FEED®
GUARANTEED
FREE FLOWING IN 100 lb. WATER-PROOF BAGS
AVAILABLE FOR IMMEDIATE SHIPMENT
WIRE OR PHONE
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Serving Mills & Breeders For Over 30 Years
DEVOLD
Devolked ® Vitamin Oils (Fortified Cod Liver Oils)
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Devold Vitamin A & D Feeding Oils
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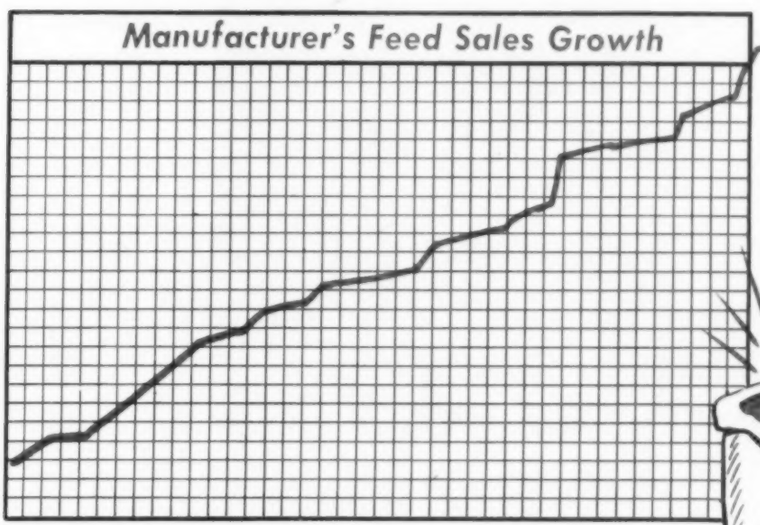
Feed Manufacturers Please Note:

MERRY MIXER

isn't included in all feed formulas--

Only the most successful ones!



Something wonderful happens to feeds supplemented with vitamin-rich MERRY-MIXER dehydrated alfalfa greenules. Feeders see it in increased appetite and growth on the feed lot. Feed manufacturers, in turn, see it reflected in repeat orders and new business. You, too, can spur sales by adding MERRY-MIXER greenules to your feed formulas. You'll find them dust-free and easier to mix than any other supplement you've ever used... and in good supply to meet your largest requirements the year round.

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GREENULES

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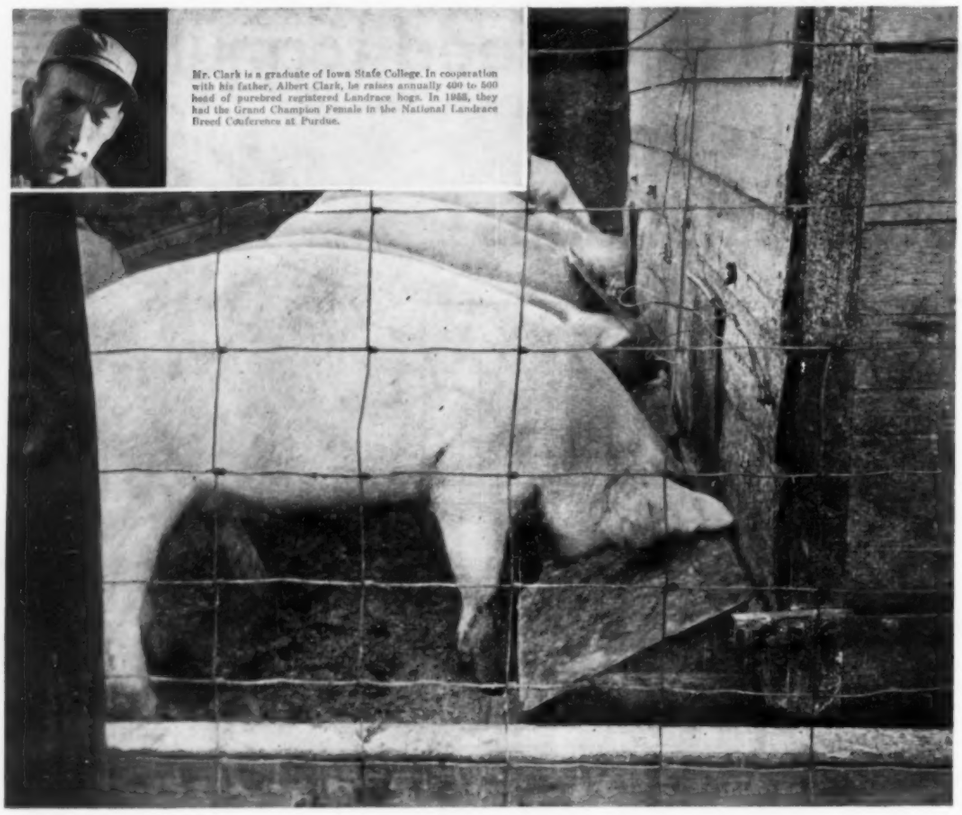
Nebraska City, Nebr. } FREMONT
Guntersville, Alabama Phone: Justice 2-3156

BLENDERS INC.

Users report on:

Aureomycin for

Mr. Clark is a graduate of Iowa State College. In cooperation with his father, Albert Clark, he raises annually 400 to 500 head of purebred registered Landrace hogs. In 1958, they had the Grand Champion Female in the National Landrace Breed Conference at Purdue.



Says Martin H. Clark of Kanawha, Iowa.

"More gain on less feed"

"I'm convinced that antibiotics are necessary for the efficient raising of hogs," says Mr. Clark. "Our registered purebred Landrace hogs have been raised with the help of AUREOMYCIN® for the past three years.

"AUREOMYCIN has proved its value to our swine-raising program by eliminating cervical abscesses (which mean a loss of several dollars per animal).

"It has proved its value by reducing the amount of feed needed per 100 pounds of weight gain—from 17 to 23 less pounds of feed are required.

"It has proved its value by controlling subclinical diseases, thereby minimizing the chances of serious infections getting a foothold in the herd.

"We're using AUREOMYCIN all the way through—in breeder stock feed at 25 grams per ton, in pig starter feed at 80 to 90 grams per ton, and in grower feed at 50 grams per ton."

Following a program similar to Mr. Clark's can mean extra market returns for any hog producer! Ask your feed manufacturer or feed dealer for swine feed containing AUREOMYCIN. American Cyanamid Company, Agricultural Division, New York 20, N. Y.

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

Says Fred Stallinge of

"We're

"Before we started using AUREO
Mr. Stallings, "our hogs requ
to 6 months to top out. Our h
that they made their mark
months and almost all of them

"Finishing hogs this much
up to four weeks in feed costs
the 600 head we plan to raise
projects into a figure of 85 t
more than $5,000.

®AUREOMYCIN is American Cyan

more hog profits

"Better health . . . better gains . . . savings in feed costs . . . more dollar returns at market." These are the four featured benefits mentioned over and over again in the reports from hog raisers using formula feeds containing AUREOMYCIN.®

Swine producers throughout the country are reading these success stories *now* — and will continue to read them all through the year — in national, sectional and local farm publications.

These advertisements are designed to help farmers know more about the outstanding antibiotic for hog feeds — and to help you sell more formula feed. Each advertisement reminds the farmer to buy formula feed from his feed manufacturer or feed dealer. And each advertisement prominently displays, in the logotype, the words "formula feeds."

If you are not now making swine feeds containing AUREOMYCIN, plan to do so. Increasing consumer acceptance of such feeds is your assurance of higher sales volume. American Cyanamid Company, Agricultural Division, New York 20, N. Y.

Says Mr. Charles M. White of Enterprise, Alabama:

"Costs me pennies for a healthier, faster-growing hog"

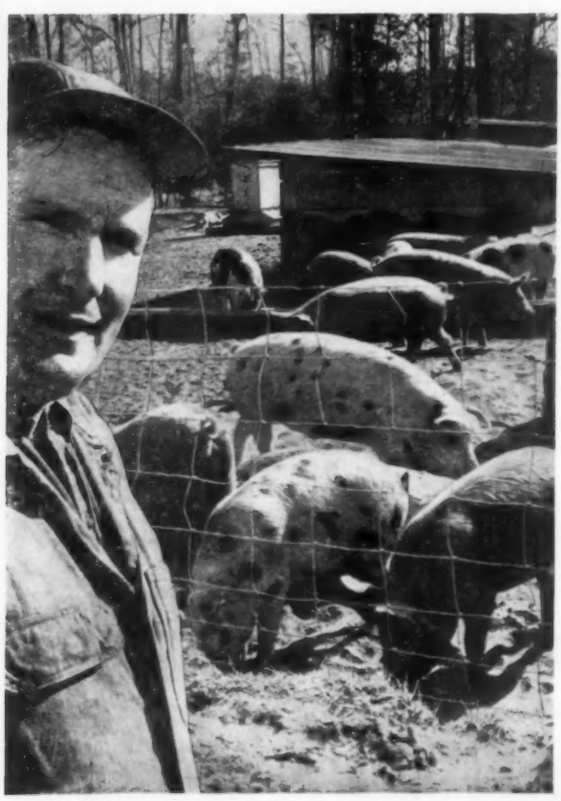
"The few pennies we spend per animal for the inclusion of AUREOMYCIN® in our hog feeds is certainly a worthwhile investment," states Mr. White. "AUREOMYCIN contributes to livelier, healthier pigs, more efficient weight gains and faster growth.

"I've long been in favor of antibiotics to maintain herd health. The antibiotic is needed to fight scours, and other diseases. We feel our low mortality rate is the direct result of steady usage of AUREOMYCIN at a preventative level. In fact, we have not lost a single pig to disease since 1956."

Find out from your feed manufacturer or feed dealer how little it costs, and how much profit it brings you, to feed AUREOMYCIN. Ask for hog feeds containing this wonder-working antibiotic! American Cyanamid Company, Agricultural Division, New York 20, N. Y.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.



Hobbsville, N. C.:

saving $2,000 yearly in feed costs"

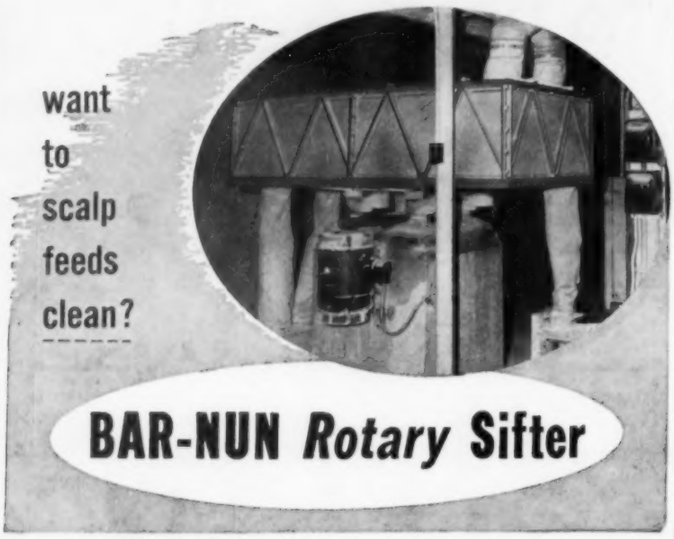
...UREOMYCIN® in feeds," says ...ed an average of 5½ ...t sale of hogs showed ... weight in only 4½ ...ld at premium prices. ...aster means we save ...n a year's time, with ...his year, this saving ...e of feed earned, or

"One big reason for our success with AUREOMYCIN is the fact that we feed it to our sows after they're bred. Our baby pigs are definitely bigger. They're healthier, and that means they gain weight faster."

Many other hog raisers in this area are getting profit benefits similar to Mr. Stallings'. You can, too. Ask your feed manufacturer or feed dealer for feeds containing AUREOMYCIN. Feed all the way through. American Cyanamid Company, Agricultural Division, New York 20, New York.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

...old Company's trademark for chlortetracycline.



Want your feeds *really* clean—free of lumps, tags, strings and other foreign objects? Want to do this important operation with true economy?

Then you want the exclusive long sieve flow with complete rotary motion of the Model M Bar-Nun Rotary Sifter. This compact sifter takes minimum floor space to do a large volume, clean, thorough scalping job. And its exclusive, all-mechanical, four-point drive design sets a new standard in sifter durability and dependability.

The Bar-Nun also excels in other sifting, grading and sizing jobs in the mill. Write for a copy of Bulletin 503—and for recommendations on your specific requirements, without obligation.

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FEEDING • MIXING • SIFTING • GRINDING • WEIGHING • PACKING and PACKAGING EQUIPMENT FOR THE MILLING INDUSTRIES

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Hetrogen K is available as an easy to use premix and as a free flowing concentrate. Recommended for medication of drinking water. For complete information, write or call collect:

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SELLIN' SAM — **By Jim Zilverberg**

"We're featuring a fire sale!"

Buys Research Farm

MADISON, WIS. — Announcement has been made by Philip H. Derse, director of laboratory operations of the Wisconsin Alumni Research Foundation, of the acquisition of a new research farm near the present laboratory facilities.

The farm has been acquired to augment the foundation's present research and development work in poultry, livestock and crop testing programs. This entails the development of poultry and stock feed programs, feed additive development and crop insecticide, herbicide and fungicide trials for the feed and agricultural chemical industries, the announcement said.

ANNOUNCES RESIGNATION

GRESHAM, ORE. — Ernie Warner resigned recently as manager of Gresham Farm Supply, recent successor to Gresham Seed & Feed Co., a firm with which he was associated for 23 years. Mr. Warner said the move was due to health reasons. Succeeding him is Marion (Bud) Markham, who has served as a field representative for the firm since last June.

N. C. Tests to Study Chick Feed Efficiency

SALISBURY, N. C. — The first hatch has been completed for tests to determine the amount of feed required to produce a pullet ready to lay eggs, according to Dr. Edward W. Glazener, head, poultry department, North Carolina State College.

Although several similar poultry random sample tests are under way in other states, Dr. Glazener said the North Carolina test is one of two being run to determine feed requirements, since other tests concentrate on calculating pullet costs.

The first hatch included 19 different types of chickens, representative of many breeding developments.

"One of the first factors to be determined in our tests," Dr. Glazener explained, "will be the amount of feed—or the cost—of raising baby chicks to the time they begin to lay. By September reports on the growing phase are expected to be available. After that, the tests will begin on the laying phase."

Measures on rate of lay, size of eggs, pounds of feed per dozen eggs, egg quality and mortality are some of the factors to be checked at the Piedmont Station, Salisbury.

More and More Buyers are Asking for . . . AND GETTING

MIDWEST GREEN BANNER DEHY

midwest alfalfa • The Ranch Mart 95th and Mission Road Prairie Village 15, Kansas • MItchell 9-0386 (Kansas City, Mo.)

NOW! you can tap the giant silage preservative market with

SILAGE ZEST

- Removes offensive silage odors
- Adds meadow-fresh aroma
- Makes farm wives happy!

YOU ARE THE MANUFACTURER

We supply you with the concentrate and the bags, also leaflets and other merchandising materials. You simply mix concentrate with trace mineralized salt, and package. No special equipment necessary.

Silage ZEST absolutely removes offensive silage odors. Odors which have become a major problem—particularly in grass silage.

Silage ZEST Does 3 Things:

1. **Stops offensive silage odors.**
2. **Introduces a sweet meadow-fresh aroma which improves the palatability of even the most perfect silage.**
3. **Greater profit for you; yet lower cost to farmers. Your cost, per 100 pounds of Silage ZEST Preservative, ready to sell, is approximately $10.00. Suggested selling price is $20.00 per 100 pounds.**

Silage ZEST Preservative is used at the rate of 3 pounds per ton of grass silage. A profit of $30.00 per 100 ton silo is yours when you sell Silage ZEST.

Manufacturers wanted immediately. Still plenty of time to start this spring. **Write today.**

(Some large organizations are becoming distributors—are purchasing Concentrate in quantity and setting up each of their dealers as a manufacturer. Special distributor prices on request.)

TASTE ENGINEERING, INC.

1401 West Hubbard Street

Chicago 22, Illinois

Suppliers of Taste/Aroma Materials to the Feed Industry, Pet Food Industry Pharmaceutical and Veterinary Industries.

by Eugene S. Hahnel

A mighty excited and proud Wood family listens in awed delight as bidding on "Holy Cow" nears the final $25 per pound. The purebred Angus was bred, fed, and finished on the Wood farm on his way to the double-crown Junior and Open Championships at the "World Series of Agriculture." Standing at the Champion's head is Chuck Wood, Jr., holding steer. To his left are his parents and young brother (and co-owner) Gregory.

A straight "A" student, President of the Student Body (750 students), Managing Editor of his school paper, and Chairman of Clay County March of Dimes, Chuck Wood has little time to rest on his laurels. His prize winnings, shared with his brother Gregory, will go a long way toward assuring this outstanding lad the opportunity to follow the profession of his choice. He intends to major in medicine at the University of Iowa.

"Holy Cow" fed Stilbosol supplement for 180 days

Grand Champion Steer at International Live Stock Exposition dresses out at 67.35%. Charles "Chuck" Wood, 18-year-old Spencer, Iowa, high-school senior, reaches top on third try.

This spring, Chuck, Jr., also took over feeding his father's carlot for the International. They were on the same feeding program as "Holy Cow," including Stilbosol for 180 days. Later, Mr. Wood topped the market with 24 feedlot mates of the 4th-prize winning steers shown here. The 24 market-topping steers were fed Stilbosol supplement for 365 days.

Standing next to one of next year's show prospects, Chuck points to the "false ceiling" he installed in the barn. A 6-inch layer of straw spread over wire mesh helps reduce heat loss and cold drafts during the bitter Iowa winter.

Another management trick young Wood uses is a water-tank heater. It assures his cattle plenty of warm water during freezing weather, and saves a tremendous amount of time and labor during the winter season.

"Cattle power" takes the place of mechanical power in Wood's 1200-ton pit silo. Cattle eat their way through the silo, as the metal gate is pushed back every few days.

ELI LILLY AND COMPANY
AGRICULTURAL AND INDUSTRIAL PRODUCTS DIVISION
INDIANAPOLIS 6, INDIANA

Makers of HYGROMIX® (*S. hygroscopicus* fermentation products, Lilly)
Procaine-Penicillin-G • Vitamin B_{12}

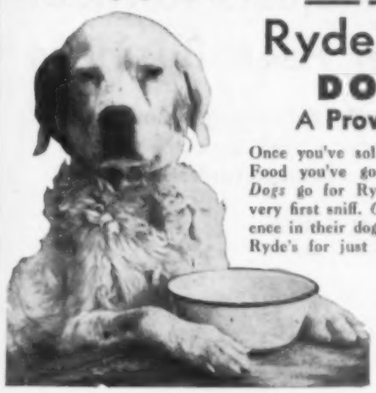
Stilbosol®
(diethylstilbestrol premix, Lilly)
Lilly

PRODUCTION SCHOOL COMMITTEE—Pictured here are members of the Feed Production School committee as they met in Kansas City for a pelleting seminar. The seminar was held to help prepare program plans for the 1959 production school, to be held Sept. 23-25 in Kansas City. Front row, left to right, are: Art Saalfield, the Quaker Oats Co., Sherman, Texas, committee chairman; Dr. J. A. Shellenberger, milling industries department, Kansas State College; C. E. (Bud) Swick, Kent Feeds, Inc., Muscatine, Iowa, and J. D. (Don) Johnson, General Mills, Inc., Minneapolis. Back row: Lloyd Larson of Feed Production School, Inc., Kansas City; Roger Berglund, Feedstuffs, Minneapolis, and Jerry Karstens, Feed Age, Chicago (both members of production school advisory committee), and Kenneth Winterscheidt, Winterscheidt Milling Co., Seneca, Kansas.

Firm Files Charter

DOVER, DEL. — Delaware Poultry Laboratories, Inc., has filed a charter of incorporation with the corporation department of the Secretary of State's office here. Authorized capital stock of the firm is $600,000. Prentice-Hall Corporation System, Inc., Dover, Del., is serving as the principal office.

An Empty Dish . . . Our Best Testimonial



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DOG FOOD
A Proven Profit-Maker

Once you've sold a bag of Ryde's Flaked Dog Food you've got yourself a steady customer! *Dogs* go for Ryde's real meat flavor from the very first sniff. *Owners* can actually *see* a difference in their dogs' health and vigor after feeding Ryde's for just two weeks!

FED DRY
NO MOISTENING
in 5, 25 and 50-lb. bags for customer convenience

RYDE & CO. 3939 S. Union Ave. Chicago 9

NATIONAL* Western Bentonite
...as the bonding agent...
makes Pellets more Profitable

Feed manufacturers who use NATIONAL Western Bentonite as their bonding agent realize greater profits from their pelleted feeds.

These greater profits come from the superior bonding qualities imparted by NATIONAL Western Bentonite.

NATIONAL Western Bentonite lubricates the feeds . . . reduces friction and prolongs life of the die.

Result . . . more pellets per hour in all shapes and sizes.

For detailed information on how NATIONAL Western Bentonite can better serve you . . . just fill in the coupon today for your copy of descriptive booklet.

BAROID **BAROID CHEMICALS, INC.**
A SUBSIDIARY OF NATIONAL LEAD COMPANY
1809 SOUTH COAST LIFE BLDG. HOUSTON 2, TEXAS

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Indiana Firm Adjusts to Meet Loss of Broiler Feed Business

Mechanization, bulk delivery, promotion, good customer service back up company's move to expand area demand for hog feeds.

By Al P. Nelson
Feedstuffs Special Writer

Any feed man who has been in business 15 or 20 years knows how fast marketing and other conditions can change. The alert dealer and mill operator must be ever ready to adjust his business policies to a rapidly developing and sometimes shifting agriculture.

Take the case of the Corn Belt Feed Co., Inc., Boswell, Ind. Fifteen years ago this feed firm did most of its business with broiler growers. There were large and small broiler raising operations for many miles in and around Boswell.

Then, suddenly, when broilers began to be produced in quantity in many sections, Boswell broiler men decided to go into other operations. Today, there are relatively few such operations around Boswell.

What does a feed firm do in a situation like this?

Corn Belt Feed Co., under the leadership of Clarence W. Lawson, president; J. Willard Miller, vice president; D. S. Smith, secretary, and James N. Dewey, treasurer, began to develop its hog feed volume in the area. There had always been a sizeable number of hog feeders there and Corn Belt had been selling them some feeds.

Modernization

The first step was to modernize the mill so that the firm could sell and deliver feeds in bulk and could have adequate grinding and mixing equipment to handle the grains which the farmers brought in to have mixed with concentrates. Later on, when pellets became popular, the firm also installed a pellet mill.

Today, the equipment lineup includes the following: A 50 h.p. Sprout-Waldron pellet mill; a 100 h.p. Jay Bee mill; a 100 h.p. Gruendler mill; a two-ton Burton mixer; two Haynes mixers, each 1½ tons, and two Highway Equipment Co. bulk trucks, an eight-ton and a 5½-ton auger type.

SACKING FEED—A premix is used by Corn Belt Feed Co., Inc., Boswell, Ind., to make its concentrate. The concentrate is bagged and stored on the second floor. When it is needed for sale or for mixing it moves down a wooden chute. In this photo, J. Willard Miller, vice president of the firm, is shown bagging the concentrate.

The firm operates on the grain bank plan and has several large bins for corn and oats storage. In addition it has 16 storage bins for bulk finished feeds.

There is no charge to farmers for grain storage when they have their grinding and mixing done at Corn Belt Feed Co.

Mr. Miller points out that under the grain bank plan both the mill and the customer save time and labor. The farmer can deliver to the mill enough grain to handle his grinding needs for a month or more at a time. Then, when the customer wants a refill on his hog feed order, he merely phones, and the mill then schedules the grind and mix job as quickly as possible.

The farmer who does not operate on the grain bank plan may bring a load of grain to the mill unannounced and find that many other

PELLET MILL — A side and rear view of the Sprout-Waldron pellet mill used by the Corn Belt Feed Co., Inc., Boswell, Ind. The firm makes hog feed, turkey feed, chicken feed and steer supplements in pellets. About 68% of the feed sold by the firm is pelleted.

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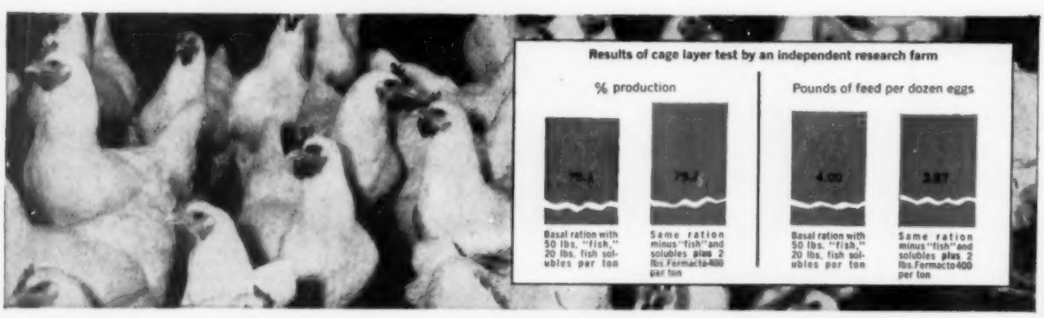
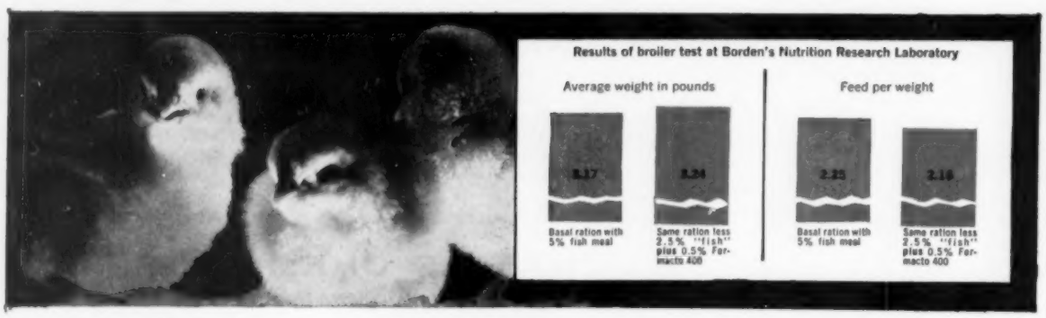

Results of cage layer test by an independent research farm
% production
Pounds of feed per dozen eggs
75.4
79.2
4.09
3.87
Basal ration with 50 lbs. "fish," 20 lbs. fish solubles per ton
Same ration minus "fish" and solubles plus 2 lbs. Fermacto-400 per ton
Basal ration with 50 lbs. "fish," 20 lbs. fish solubles per ton
Same ration minus "fish" and solubles plus 2 lbs. Fermacto-400 per ton

in egg mashes... only 2 pounds of Fermacto 400 per ton (all-mash basis), costing 25¢ — replacing 50 pounds of "fish" and 20 pounds of fish solubles — increased layers in daily production by 4.1% and increased profit per ton by $3.36.


Results of broiler test at Borden's Nutrition Research Laboratory
Average weight in pounds
Feed per weight
3.17
3.24
2.25
2.16
Basal ration with 5% fish meal
Same ration less 2.5% "fish" plus 0.5% Fermacto 400
Basal ration with 5% fish meal
Same ration less 2.5% "fish" plus 0.5% Fermacto 400

in growing rations... only 0.5% of Fermacto 400 per ton (all-mash basis) — replacing 2.5% "fish" — cut the feed/weight ratio from 2.5 to 2.16 and increased profit per ton by $6.75.

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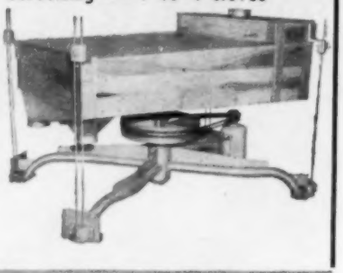

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EMPHASIZES BULK DELIVERY—J. Willard Miller, vice president of Corn Belt Feed Co., Inc., Boswell, Ind., is shown standing by one of the two bulk trucks owned by the firm. The headquarters is in Boswell, and there is a branch in Oxford, Ind. The firm supplies feed for about 12,000 hogs in the Boswell area. It uses the grain bank plan.

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THE IMPORTANCE OF VITAMIN D NUTRITION

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Dr. Wallis answers your questions about...

vitamin D *nutrition*

q: Is there a new recommendation for the amount of vitamin D to be fed for preventing milk fever?

a: Yes, on the basis of recent work, the Ohio Agricultural Experiment Station now recommends 20,000,000 units of vitamin D_2 per day for five to seven days before freshening. This is two-thirds of the previous recommendation. Now milk fever prevention costs even less than before.

q: Can I depend upon good sun-cured hay to supply enough vitamin D for my livestock?

a: Definitely not. Contrary to what is often assumed, the amount of sunshine received in curing does not provide a reliable basis for judging vitamin D content. Some sun-cured hay is even lower in vitamin D than artificially dried hay.

q: I have a herd of good producing dairy cows. How much vitamin D do they need?

a: Experimental evidence on vitamin D requirements is limited to work for less than a year on five or six cows in moderate to low milk production. Obviously, this is not enough to give reliable information for high-level performance on a long time basis. Based on accumulating evidence on vitamin D needs, more feed manufacturers are increasing fortification of complete dairy rations to 6,000 - 8,000 units of vitamin D per pound. As an example, when fed at the rate of 10 pounds per day, a cow would get 60,000 - 80,000 units of vitamin D daily.

q: My brood sows are getting a lot of sun-cured alfalfa hay. Will that take care of their vitamin D needs?

a: Not necessarily. One-third of twelve sun-cured alfalfa hay samples included in a recent report would have contributed less than 60 units per pound of complete brood sow ration when used at a level of 25% and the lowest one only 20 units. The highest one of the twelve samples would have contributed far less than the 500 units per pound recommended by many nutrition authorities. (Send for free reprint "The Vitamin D Content of Roughages").

q: Will it do any good to put vitamin D into beef cattle rations?

a: Very little controlled research has been done, but benefits from supplemental vitamin D have been observed in college and commercial beef herds for growing, fattening, and breeding stock. Realizing that unrecognized losses may frequently occur, many feed manufacturers fortify beef cattle rations with vitamin D.

G. C. Wallis

Send your questions about vitamin D nutrition to Dr. G. C. Wallis, Director of Nutrition, Agricultural Department, Standard Brands Incorporated, 625 Madison Avenue, New York 22, N. Y.

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grind and mix customers are ahead of him. This often means a costly wait for some farmers.

Feed Mixing

"We follow Iowa State College hog feeding and raising recommendations with some adaptations," states Mr. Miller, "and we find that these recommendations are very sound and produce results."

Besides having the equipment necessary to grind and mix and also to deliver hog feed in bulk, this feed company also makes its own hog feeds. It supplies the feed for about 12,000 hogs in the Boswell area.

The firm uses its own concentrate which it makes with premix supplied by Peter Hand. This concentrate is bagged and stored upstairs. When the concentrate is needed for sale or for mixing it is sent down a wooden chute. The upstairs room also has a Richardson scale and a Union Special sewing machine. Employes do the bagging and stitching during spare moments.

The firm manufactures a pig starter and a pig grower in pellet form. The pig starter is fed starting at two or three days of age, states Mr. Miller, and about 50 lb. is used per litter. The pig grower pellets are used until the pigs are weaned.

Many farmers are weaning at four weeks and continue to feed the grower pellets until the pigs are about 50 lb. in weight. The next ration used is eight parts corn and two parts supplement. This is fed until the pigs are 75 lb. in weight.

Next, the firm's hog customers use an 8½ to 1½ ration up to 125 lb. Then the hogs go on a 9 to 1 ration until market time. Aureomycin and minerals are added to these rations to give an antibiotic and mineral balance. The reason for this, Mr. Miller

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SALES BUILDERS—A customer of Corn Belt Feed Co., Boswell, Ind., is shown talking over the purchase of a hog feeder with J. Willard Miller, vice president. The firm sells about 250 metal and wooden hog feeders annually, and it usually has one or two on the floor for display. To boost sales of the feeders, the firm has been selling them without charging interest to customers who use the firm's feeds.

says, is that it is impossible to build a concentrate that will fulfill all requirements in the rations.

"We build both a gestation and lactation sow ration for complete feeding," he says. "The gestation ration is two parts corn, five parts oats, two parts alfalfa meal and one part concentrate. At times this ration has to be revised to control feed intake. The lactation ration is seven parts corn, two parts oats and one part concentrate. The concentrate is 42% protein. Minerals and antibiotics are incorporated for correct balance.

Pelleted Feeds

"Much of our hog feed is now in pellet form along with turkey and chicken feed and also steer supplements. About 68% of the feeds we sell are pelleted. They cost the customer $2 ton more than mash feeds."

Most of the hogs raised in the area go to market in five months and weigh from 200 to 225 lb. Mr. Miller says that hog customers know the numbers of the Corn Belt Feed Co. hog rations and merely phone in the number of the ration they need.

A card index system in the office records all the feed which each customer purchases. These records are valuable for study purposes and for accurate and quick service to farmers, reports Mr. Miller.

Bulk deliveries are generally made to hog customers about once a week. Many of them take from five to eight tons at a time. Some hog raisers have as many as 20 large-size feeders, each costing about $110. The Corn Belt Feed Co. sells about 250 wooden and metal hog feeders annually, and usually has one or two on floor display in the store.

In order to boost the sale of such feeders, Corn Belt has been selling them at regular prices, with no interest, to customers who use Corn Belt feeds. This policy is working out very well.

"While we are enjoying a good volume of hog feed business," states Mr. Miller, "there is no doubt that when the farmer has the right number of feeders, he is ideally set up to use more feed, and the delivery and dumping of such feeds are easier. No matter what the season, we usually can get right out into hog lots and dump right into these feeders. Many of our customers are also improving their yards to facilitate heavy truck travel and delivery."

Charges

The Corn Belt Feed Co. offers a $3 ton discount on bulk over the bag price, and an additional 2% if the customer pays his bill within 30 days, plus 10 days. If the customer picks up his own feed at the mill, he gets an additional $1 ton discount.

"We have been in delivery of bulk feeds since 1947," declares Mr. Miller, "and now keep two trucks busy with delivery of such feeds. Relatively few farmers today pick up their own feeds at the mill."

The firm is selling some feeds in 50-lb. bags, and reports that customers like it.

While integration may be an important factor in other regions, there is no evidence of it in the Boswell area. It is interesting to note that Benton County, Indiana, has the highest agricultural income per person in the U.S., which means that independent farmers in the area are generally farming at a profit.

"We are not as yet offering a hog weighing program, but we are plan-

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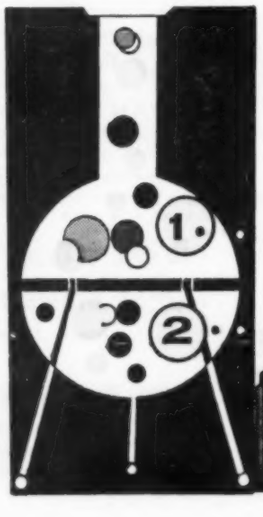

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ning to go into it," states Mr. Miller. "Then we'll be able to weigh a customer's hogs every month and show him specifically how much his hogs have gained in 30 days."

Farm Supplies

Corn Belt Feed has a large and neatly arranged display room. Here are kept livestock and poultry remedies, poultry and hog equipment, etc. Usually one or two large hog feeders are on display as well as electric water heaters. Each heater costs about $105 installed, and each is usually mounted on concrete.

To outfit the Corn Belt Feed Co. mill with equipment needed to serve modern day farmers, Mr. Miller says the following amounts were invested:
$25,000 for pellet mill and associated equipment
$11,000 for bins
$20,000 for bulk equipment

"We feel that we are pretty well set to operate profitably under present day competitive conditions," says Mr. Miller. "With bulk equipment we can reach quite far out and still do a good job, thus taking care of more customers."

Mr. Miller and one other employee spend part of each day calling on farmers discussing feed needs with them. This type of personal contact helps a great deal, Mr. Miller reports, in making the customer feel that the company has an interest in him after the firm has sold him feeds. He says his firm is vitally interested in seeing that the customer uses Corn Belt Feeds to best advantage, and that the company is always willing to help a grower with his feed problems.

This policy can often be best demonstrated through personal visits, he states.

Through newspaper, direct mail and other advertising, Corn Belt Feed also reaches many feed customers in the region. Occasionally feeder meetings held at the store or at a local hall also help to make farmers feel that the feed company is always ready to help them.

Canadian Feed Assn. Outlines Policy Goals

TORONTO — Policy objectives of the Canadian Feed Manufacturers Assn. are outlined in a new folder released recently by the organization. The folder is to be used for public relations purposes.

The Canadian group, now 30 years old, has a membership of 400 active and associate members.

In its introduction, the folder briefly identifies the Canadian feed industry as among the large industries of the Dominion and as a key industry in the production of human foods.

Listed as policy objectives are six points as follows: (1) A prosperous Canadian agriculture; (2) Service to agriculture; (3) Efficient, profitable production of livestock and poultry; (4) Cooperation with other agencies and organizations; (5) Preservation of the Canadian way of life; (6) A strong association.

Under the first point, the association pledges itself to a prosperous agriculture, cooperation in soil improvement and other measures that foster a prosperous agriculture and support for the Canadian Council of 4-H Clubs.

Service to agriculture assured by the association in its second objective includes the promise of dependability, more profit for the producer, cooperation with the government in turning nutritional research into balanced rations and improved manufacturing and delivery facilities which will lower the cost of balanced rations.

Noting that livestock farming is the "keystone of Canadian agriculture," the association folder said under its third point that feed men will encourage and initiate programs which will promote prosperous livestock and poultry production, will concentrate on the constant improvement of animal and poultry nutrition and management and will continue an active research program.

The pledge of cooperation, given as the fourth objective, is promised to those organizations whose "programs of research education and leadership seek objectives identical with those of the feed manufacturing industry."

Preservation of the Canadian way of life is pledged through the association by providing economical and healthful food for Canadians, by complying with laws and regulations affecting the feed manufacturing industry, by standing for fair competition and sound business principles and by urging members to accept the full responsibility of citizenship.

The need for a strong association, the sixth objective, results from the recognition by the association of its responsibility as a spokesman for the industry. "The association can fulfill its assignments effectively only to the degree in which it speaks for the entire industry," the folder states. The association also promises to coordinate the industry's service functions, to promote understanding and cooperation between the industry and public groups with similar objectives and to serve as a central point for coordination and dissemination of research, feed and management programs, improved methods of manufacture and distribution, and of business practices.

New Packing Plant In Lubbock, Texas

LUBBOCK, TEXAS—A new packing plant being built by Durward Lewter and associates will likely be completed here by the middle of April. The plant, with a capacity of about 400 animals a day, will become a part of the Lewter Feed Mill, Inc., and the Lewter Feed Lots, both of which are located near the packing plant southeast of the city.

The plant will slaughter cattle from the Lewter feeding pens and ship them out as carcasses. One of the outlets will be cities on the Atlantic coast. Later the new firm may process the beef into other forms.

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Patent Pending

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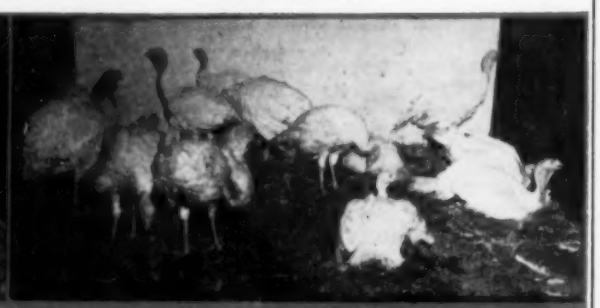
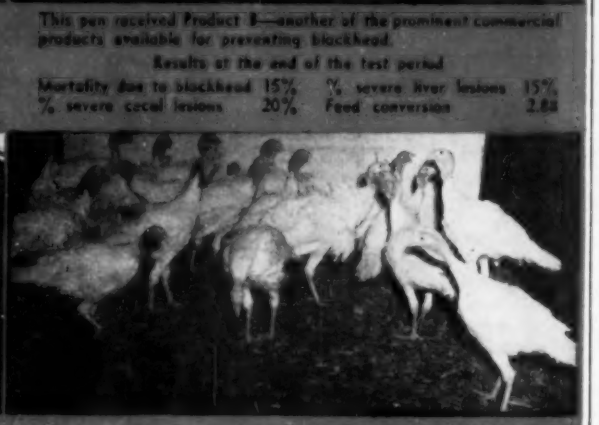
% severe cecal lesions 55% Feed conversion 3.29



This pen received Product B—another of the prominent commercial products available for preventing blackhead.
Results at the end of the test period
Mortality due to blackhead 15% % severe liver lesions 15%
% severe cecal lesions 20% Feed conversion 2.88

This Control Pen received no blackhead preventive product
Results at the end of the test period
Mortality due to blackhead 60% % severe liver lesions 60%
% severe cecal lesions 60% Feed conversion 4.16



This pen received CARB-O-SEP
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% severe cecal lesions 0 Feed conversion 2.35

—Abstracted From Test C-158

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Economists Develop Price Dial for Hogs

URBANA, ILL.—University of Illinois agricultural economists have developed a unique price dial which a farmer can use to determine hog price trends over short and longer periods.

The dial shows how changes in the number of hogs produced will affect the prices the farmer can expect the next year. The dial will also show him how continuing hog production at this same level would be likely to affect prices over periods of three and five years or more.

Dr. C. P. Schumaier and Dr. Eric Berg of the agricultural economics department developed the dial for use at the Farm & Home Festival to be held April 2-4 on the campus.

Describing how the dial operates, they said that taking the past 13 years, the dial shows that the average annual pig crop of about 90 million head brought an average price of around $19 at Chicago. During this period, the largest pig crop was about 100 million head, or an increase of about 11%. This sharp increase drops the price pointer down to around $14.

However, if farmers continued to produce hogs at this high level for three years, the dial shows that the price would probably work up to about $16. After five years, it would probably recover still more — to around $17.50.

The economists explain that with low hog prices, consumers would realize how much of a bargain pork was and people would buy more. As demand picked up, prices would gradually move higher.

On the other hand, the price dial shows that hog prices would climb to around $24 if hog producers cut back to an annual pig crop of around 80 million head. But if this low level of production continued for several years, consumers would gradually turn to lower priced meats. As demand dropped, prices would fall even though supplies were lower.

Dr. Schumaier and Dr. Berg believe the main point shown by the price dial is that over a period of time an increase in the pork supply would increase consumption more than it decreased prices, and the result would be higher incomes for hog producers.

Antibiotics, Hormones Used in Lamb Trials

SHELBURNE, VT. — An experiment with antibiotics and hormones involving about 150 lambs has been started by Robert Bruce, manager of Southern Acres Farm here, as part of his work toward a master's degree in animal husbandry at the University of Vermont, Burlington.

Antibiotics are being placed in creep rations. Simultaneously, some lambs are undergoing hormone implants.

Donald Balch, professor of animal husbandry and extension specialist at the university, who is cooperating with Mr. Bruce in the experiment, said the tests are an attempt to find ways to cut down the death rate of lambs, while securing better weight gains and feed efficiency, and to learn of effects on the carcass quality of the animals.

"It is probably the first experimental work with hormones carried out in Vermont," Prof. Balch declared.

Laboratory Director Gets French Award

RENSSELAER, N.Y. — The Order of Merit of France's Society for Encouragement of Research has been awarded to Dr. Frederick C. Nachod, a chemist at the Sterling-Winthrop Research Institute, Rensselaer.

The award, offered annually by the society, is sponsored jointly by France's Ministries of Education, Industry, Commerce and Public Health. Dr. Nachod, who joined the institute in 1946 and has since served as director, physical chemistry laboratory, was honored for his international contributions to physical, organic and medicinal chemistry.

The Sterling-Winthrop Research Institute is the major research center for Sterling Drug, Inc., and its divisions and subsidiaries, including Sterwin Chemicals, Inc.

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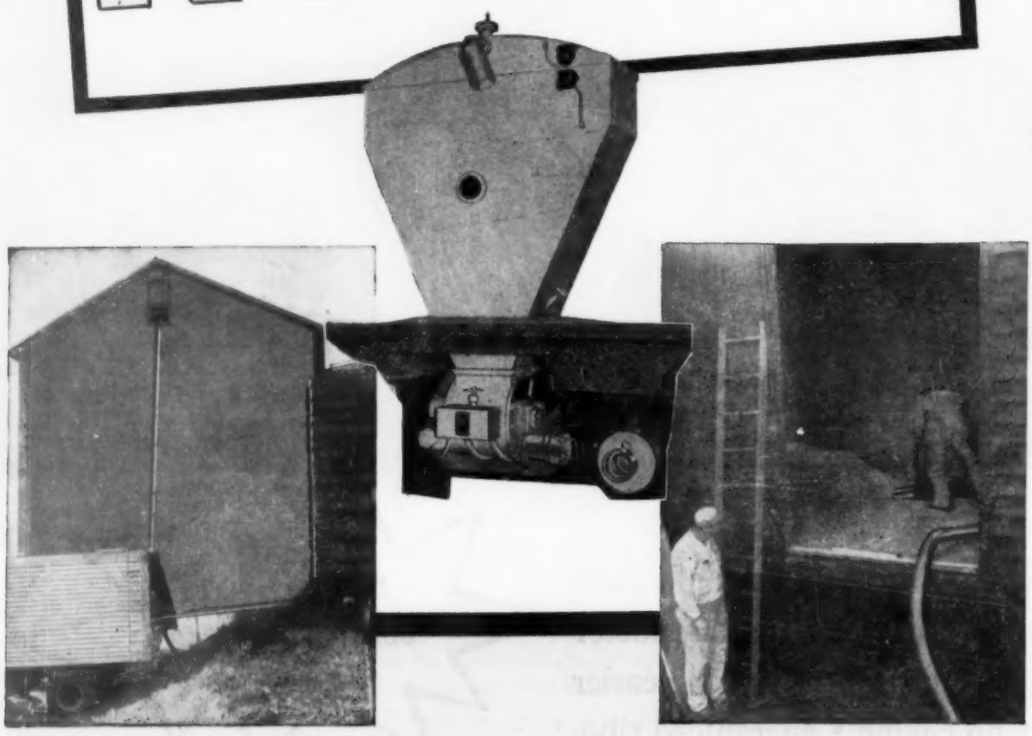

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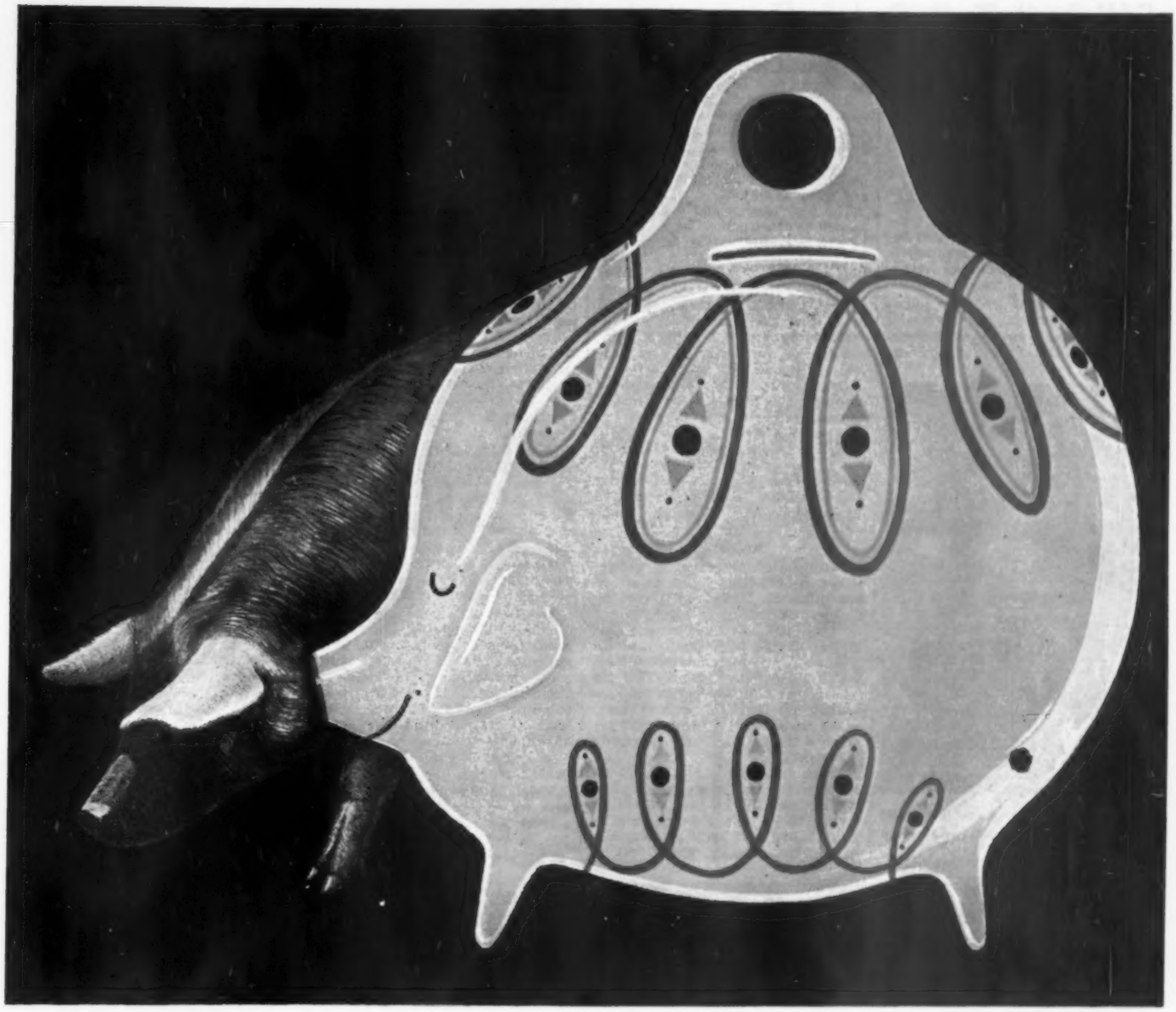

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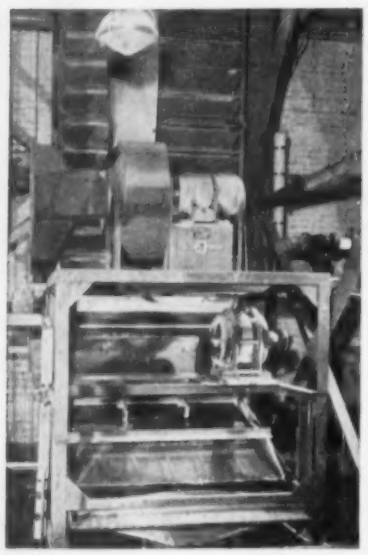
New Ful-O-Pep Plant in N.C. Turns Out Poultry Feed on Efficient Bulk-Batch Basis

As officials of The Quaker Oats Co. feed division have frequently pointed out, the trend in feed manufacturing is toward efficient, small to medium-size plants which serve nearby areas.

One of these new mills is that of Quaker Oats at Asheville, N.C. It is basically a poultry feed mill, turning out complete Ful-O-Pep feeds from basic ingredients on a bulk-batch basis. The average capacity rating is approximately 100 tons per eight-hour day.

Broiler and laying feeds are manufactured at this highly automatic plant, principally in crumbled form. The mill is also suitable for modification to manufacture turkey feeds on an efficient bulk basis.



Pellets are cooled, crumblized and graded on Sprout-Waldron units shown here.

An existing one-story brick building was used in the construction of the new plant. This building houses the milling equipment and bagged feed storage space, and erected above the building were bulk ingredient bins and other facilities.

The basic design and engineering, as well as construction, were supplied by the T. E. Stivers Co., milling engineer at Decatur, Ga., in cooperation with Ray Pofahl of the Quaker Oats engineering department at company headquarters in Chicago and other Quaker engineers.

Plant management explains that capacity of the new mill is approximately 10 tons per hour on pellets or crumbles or 12 to 15 tons per hour on mash. This gives an average daily capacity rating of approximately 100 tons per eight hours.

The plant manager, Ray Dodson, notes that the finished Ful-O-Pep poultry feeds go out in both bagged and bulk form. Adjoining the mill are 10 bulk bins, each of 10 to 12 tons capacity.

Receiving

Receiving of ingredients is by rail, either in bulk hopper cars or standard rail cars. The material goes by under-track unloading auger, bucket elevator and conveyor distributing system to bulk bins. One bin, of 10-ton capacity, is for ground corn meal over the batching system. This bin is equipped with Bindicators for controlling the level of ground corn, which comes from a hammermill beneath a shelled corn bin adjacent to the plant.

Truck unloading is by portable inclined auger into a separate receiving elevator in the case of shelled corn. The corn is elevated directly into a bolted steel bin of approximately 4,000-bu. capacity. The hopper in this bin is located to permit discharging of the corn directly into a 100 h.p. hammermill, with the fan blowing the ground corn to a collector over the 10-ton bin. Ingredients received by truck also may be unloaded into the under-track rail unloading auger by means of a separate hopper into the screw.

From the bulk storage and working bins over the scale, screw feeders connected to an automatic batching system convey the materials to the scale as called for. Some 90-95% of a batch is introduced in bulk in this way. The remaining ingredients —including vitamins, minerals, antibiotics and other trace ingredients— are put in through a floor dump.

The two-ton batch scale system discharges through twin gates, directly to the two-ton horizontal batch mixer. The mixer is discharged to the catch bin through tandem gates. From the catch bin the feed is elevated and distributed through a turnhead to bulk bins over the truck scale adjacent to the mill, or to bagging bins, or to pellet mash bins over the pellet mill.

The bulk bins are of 10 to 12 tons capacity each and are situated over a truck scale for direct gravity loading. Sacked feeds go either into the warehouse or to truck load-out.

Pelleting

Pelleting is handled on a 100 h.p. pellet mill. Pellets are elevated with an elevator equipped with special belts, cups and galvanized legging to the cooler, crumblizer and grader.

The pellets or crumbles may be blended with animal tallow at a level of 1 to 10%. The material then drops into the elevator and is raised to another turnhead, from which the pellets or crumbles may be spouted to bulk or to the bagger.

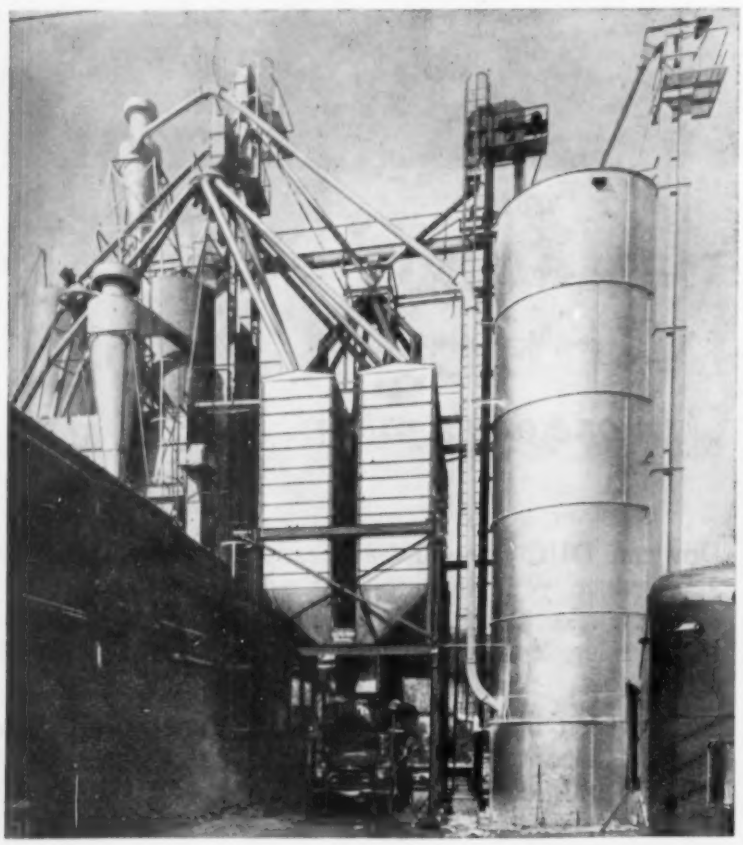
The automatic batching system includes provision for expansion to take care of three additional ingredients later.

The corn meal bin over the scale has an air-operated gate mechanism, while the other screw feeders on the working bins are, of course, electrically driven.

For handling fat, there is a 10,000-gal. tank, equipped with external platecoils for heating and with a level indicator. A boiler supplies steam for the pellet mill as well as heat for the outside animal fat tank and a small 300-gal. inside tank. Temperatures of animal fat are automatically controlled.

As Mr. Dodson points out, the entire plant adds up to an efficient, specialized operation turning out poultry feed with a minimum of labor and a maximum of quality control.

Pictured here is the Quaker Oats Co.'s new feed plant at Asheville, N.C. An existing brick building was used in the construction of the new plant. The building houses the milling facilities and bagged feed storage space. Erected above the building were ingredient bins and other facilities.



A close-up view of part of the mill exterior. In the center are the bulk bins for finished feeds, located over a truck scale. On the right is a bin for shelled corn, and on the left are ingredient working bins, elevators, turnheads, collectors and other facilities.

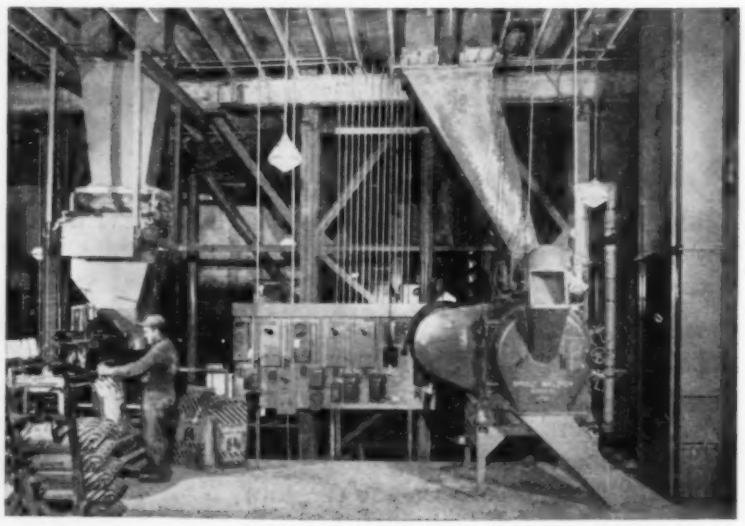
Dr. Salsbury's Plans Short Course Series

CHARLES CITY, IOWA—A series of short courses on chicken disease prevention and control will be given during April, May and June by Dr. Salsbury's Laboratories, Charles City, the firm announced recently.

The courses are four-day studies which include practical education in chicken diseases, management and sanitation, as well as the proper use of drugs in treating and preventing diseases. An adequate staff of instructors and control of the enrollment allow intensive and personalized attention for each student, the announcement said.

The schedule is as follows: April 6-10; May 4-8, and June 15-19.

Each session will begin at 1 p.m. the first day of the course and will close at noon the fifth day. Further information may be obtained by writing to the firm or consulting with its territory manager in the area in which the interested person resides.



Bagging and pelleting units are shown in this photo. On the left is the Richardson bagger, and on the right is the Sprout-Waldron 100 h.p. pellet mill. Some of the controls for the pelleting and crumblizing operations are in the background.

'Closer Teamwork' Urged at Poultry Disease Symposium

WACO, TEXAS—A call for closer teamwork among feed manufacturers, drug companies, universities and others to do a better job in serving the poultry raiser was sounded at a recent Poultry Disease Symposium here by H. G. Bos, director of marketing, Dr. Salsbury's Laboratories, Charles City, Iowa.

Mr. Bos also outlined Dr. Salsbury's objectives and advertising code —recently placed in written form— which officials of the firm say are designed to encourage cooperation among all segments of the poultry industry "for the common good."

"Present cooperation among the people who serve the poultry industry is a far cry from what the fruits of uncooperation have been in the past," Mr. Bos said at the symposium sponsored by Dr. Salsbury's. "Do you realize that piperazine was discovered more than a century ago? Only comparatively recently has this excellent poultry wormer come into widespread use." He also cited lapse between the discovery of penicillin and its general use.

Pledges Cited

Mr. Bos reported that the company's written objectives include a pledge "to maintain the professional integrity of the laboratory in all dealings with customers, distributors, dealers, with the public and with every industry and professional contact."

Another portion reads: "To continually develop products which meet the needs of a changing market and to contribute strongly to scientific knowledge of animal health through an active research program."

The advertising code says in part: "It is our aim, with respect to the advertising text, to adhere to label claims for the products, to avoid statements that are unjustifiable, and to permit no misrepresenting of the product, explicit or implicit."

Another portion, labeled "Industry Cooperation," pledges the company's efforts to use advertising as a positive, educational force that teaches that proper medication is only a part of good poultry management. "In keeping with the over-all company policy," the statement proclaims, "our advertising will cooperate with the other segments of the industry to the general good."

Discussing the importance of basic research in universities, the marketing director pointed out that "it wasn't long ago that industry and scientists at our educational institutions were far apart. Industry failed to take advantage of the nuggets of knowledge from the so-called ivory towers, and scientists looked on industry with disfavor—they just didn't understand each other's problems."

Examples of Results

Now, however, he continued, the cooperation of industry scientists and university researchers is making good headway, especially through their working together in professional organizations. He cited product testing and the development of new methods of feed analysis as outstanding examples of results. He also pointed out that many good products have been developed by industry taking advantage of knowledge gained through basic research in universities.

Mr. Bos said that "one of the most encouraging signs" of closer teamwork is the increasing role of veterinarians in the poultry disease field.

"Closer teamwork means that the feedman, extension service worker, the flock serviceman, the hatcheryman and the drug salesman can be better prepared to help the grower when they are backed by the great fund of knowledge from universities and industry.

"This teamwork is important in the reporting of diseases, too. With good cooperation growers who haven't been affected by disease outbreaks can take preventive measures. This teamwork is especially valuable when a new disease breaks out," he said.

Swine Gastroenteritis In South Carolina

COLUMBIA, S.C.—An increase in the number of cases of a virus disease occurring in young pigs has been reported by Dr. R. W. Carter, director of the South Carolina livestock disease eradication program.

Dr. Carter said that transmissible gastroenteritis, an intestinal disease, has affected swine of all ages but pigs under two weeks of age have been hit more severely, with death losses running as high as 100%.

"There is no effective treatment," he said, "and prevention is the only way to handle the situation. Affected animals must be isolated and sows about to farrow and newborn pigs should be removed to uninfected premises."

Dr. Carter added that sows which have had the disease develop an immunity so that it is not necessary to dispose of parent breeding stock. Pigs which survive are often stunted, he said, and make poor weight gains.

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Remind him to order Morton T-M Salt. See page 79.

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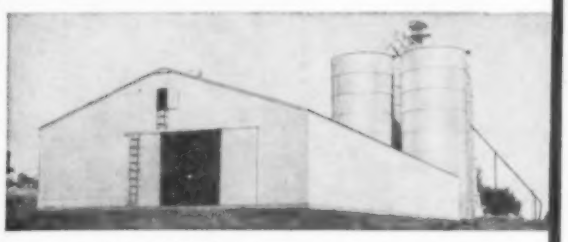

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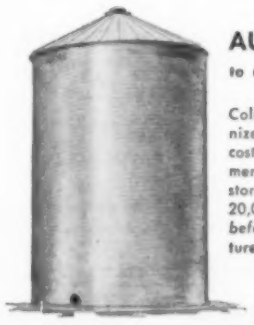

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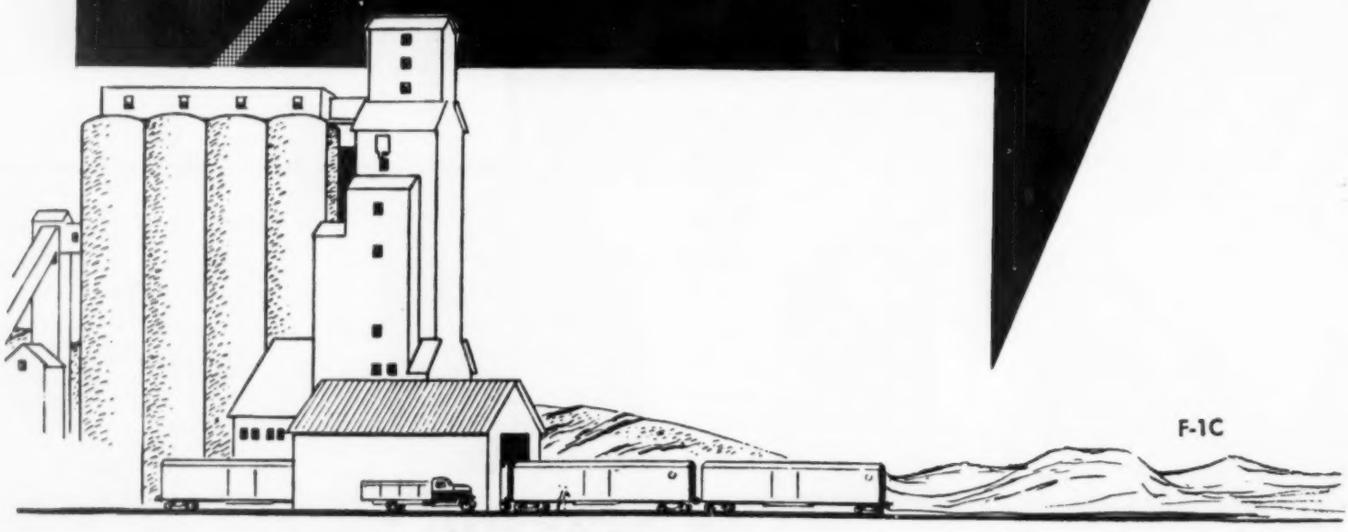

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Morton T-M Salt. See page 79.

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No. 7429—Gross Weigher

Thayer Scale Corp. announces the Thayer Gross Weigher which discharges directly into a container. The Thayer belt feeder, with air actuated bulk and dribble gates, permits adjustable flow and is particularly suitable where material cannot

be hoppered, the company says. The unit handles flooding or erratic flow materials. The feeder and scale are totally enclosed and the control box containing all switches and scale indicating lights can be mounted remotely. Information is available by checking No. 7429 on the coupon and mailing to this publication.

No. 7423—Antibiotic For Mastitis

Thiostrepton, an antibiotic said to be "the answer to the elimination of penicillin residues in milk," has been announced by E. R. Squibb & Sons, division of Olin Mathieson Chemical Corp. Marketed under the tradename "Neothion," the product eliminates the hazards of penicillin traces in the milk of dairy cattle treated for mastitis, the company said. According to company literature, tests showed that all traces of thiostrepton in milk are non-existent after 72 hours. For more information about the product check No. 7423 on the coupon and mail to this publication.

No. 7428—Egg Packaging Material

Independent Carton Co. announces the availability of all varieties of printed 2 by 6 paper board egg cartons. According to company literature, the firm will specialize in pictorials, produced by lithograph process. The cartons have been designed, the company says, to fit standard egg room equipment and to minimize spoilage. Check No. 7428 on the coupon and mail for details.

No. 7430—Polyamino Acids Data

An extensive data sheet, containing information and prices on polyamino acids, is available from Mann Research Laboratories, Inc. The polyamino acids are a series of biochemicals recently synthesized and are now available on a commercial scale, the company says. According to company literature, the compounds are finding interest in many fields of research including protein studies and enzyme and blood chemistry. The antibacterial and antiviral properties are being investigated by pharmaceutical companies, it was noted. Check No. 7430 on the coupon and mail for details.

No. 7432—Conveying System Bulletin

The availability of a technical booklet describing Pneu-Pac, a pneumatic conveying system for car, truck or bin unloading, has been announced by Sprout, Waldron & Co., Inc. Bulletin 211 illustrates and describes each component of the system, including vacuum nozzle, the products collector, the positive displacement blower and the airlock feeder. It includes a schematic drawing of a typical system for unloading freight cars and conveying material to bulk bins. Dimensions and specifications are also shown. Basic information on a recently introduced portable Pneu-Pac system designed for in-plant transfer of granular free-flowing material is included. Check No. 7432 on the coupon and mail for details.

No. 7425—Steam Boiler Bulletin

Vertical steam boilers are fully described in an illustrated bulletin (No. 5215) released by Sellers Engineering Co. The Sellers Type H boiler is discussed and such features as design, quietness, operation and specifications are included. Copies of this bulletin can be obtained by checking No. 7425 on the coupon and mailing to this publication.

No. 7417—Data Sheet On Shovel

A data sheet giving specifications and general information on a "Electro-Matic" shovel has been made available by Munson Mill Machinery Co. The sheet states the various uses and functions of the shovel. Various

components of the unit are illustrated including the scoop, cable, pulley, drum and motor and control box. Also described on the sheet are the power supply, the controls, and electrical wiring system. A sheet can be obtained by checking No. 7417 on the coupon and mailing to this publication.

No. 7431—Vibration Inducer

A high-amplitude vibration inducer, which starts and keeps materials moving during the unloading of railroad cars or hoppers, has been introduced by the Martin Engineering Co. Called the "Vibrolator CCVP," the unit can be used for material movement from huge bins, hoppers or chutes. It is portable with its

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- ☐ No. 7423—Antibiotic for Mastitis
- ☐ No. 7424—Portable Pellet Mill
- ☐ No. 7425—Steam Boiler Bulletin
- ☐ No. 7428—Egg Packaging Material
- ☐ No. 7429—Gross Weigher
- ☐ No. 7430—Polyamino Acids Data
- ☐ No. 7431—Vibration Inducer
- ☐ No. 7432—Conveying System Bulletin
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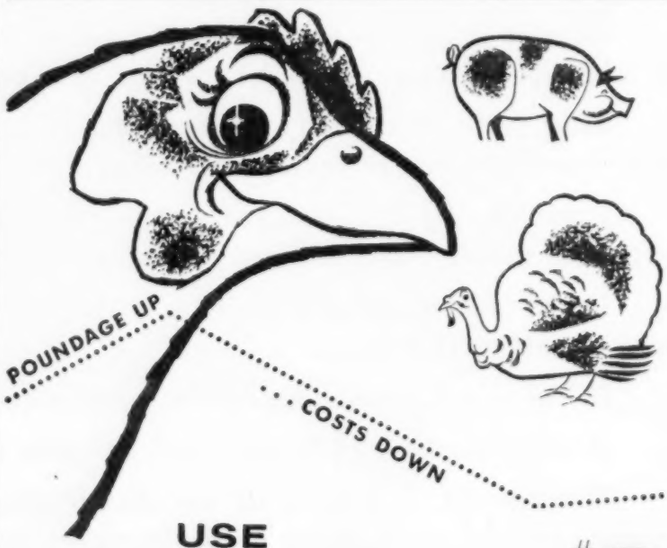

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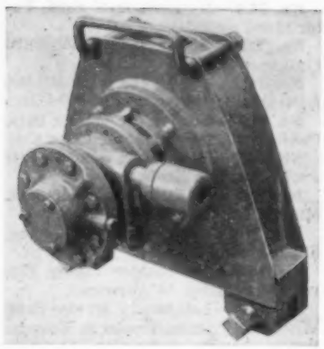


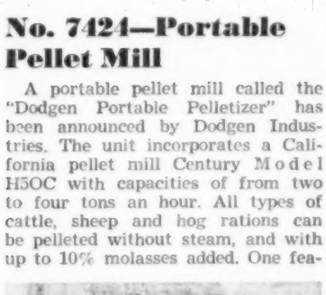
own mounting clamp and can be mounted in any position or angle convenient to the job, the company says. The unit is pneumatically-driven, starts and operates with minimum air at any angle, the company says, and it is also shock-proof and spark-proof. The CCVP can be controlled at any vibration frequency from a few cycles to more than 60 cycles per second, the company says. Check No. 7431 and mail for details.

No. 7433—Rumen Literature

The Amburgo Co., Inc., announces the availability of three new literature items concerning rumens. The "Rumex Review" is a bulletin which discusses the function of the rumen and philosophies regarding the benefits of feeding rumen contents. "Rumen Feeding Literature" is a brochure designed to give the feed manufacturer facts about rumen, the company said. Also available are cartoon strips on digestion of ruminants, showing in diagram form the digestive processes of ruminant animals. Check No. 7433 on the coupon and mail for copies.

No. 7424—Portable Pellet Mill

A portable pellet mill called the "Dodgen Portable Pelletizer" has been announced by Dodgen Industries. The unit incorporates a California pellet mill Century Model H5OC with capacities of from two to four tons an hour. All types of cattle, sheep and hog rations can be pelleted without steam, and with up to 10% molasses added. One feature, the company says, is that it works as a companion unit to other machinery such as balers, grinders and mixers. Ability to pellet a complete ration at the hay and grain supply is another feature, the company says. A hydraulic valve control regulates feeding into the pellet hopper and the completed pellets are then gravity fed over screen where fines are released. Bucket elevator system conveys finished pellets into receiving bin. Check No. 7424 and mail for details.



Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 7352—Data sheet on rail car, General American Transportation Corp.

No. 7353—Moisture balance, Central Scientific Co.

No. 7354—Mastitis treatment, Chas. Pfizer & Co.

No. 7355—Story on plant layout, Sprout, Waldron & Co., Inc.

No. 7356—Sow farrowing stall, Bel Echo Manufacturing Co.

No. 7357—Corrugated grain bins, Butler Manufacturing Co.

No. 7358—New products folder,

SOLUBLE NUTRIENTS, INC.

fermenters of solubles since 1952

"VIVO" BRAND ANIMAL AND POULTRY FEED SUPPLEMENTS

A DEPENDABLE SOURCE OF ALL THE UNIDENTIFIED FACTORS PLUS KNOWN WATER SOLUBLE ENTITIES

TECHNICAL SALES OFFICE
FOREST H. CLICKNER & ASSOC.
53 W. JACKSON BLVD.
CHICAGO, ILL. PHONE WE 9-0797

MAIN OFFICE
4701 FULLERTON AVE.
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Strong Scott

"Our feed SALES

HAVE INCREASED APPROXIMATELY 40%"...

says Dale Anderson manager of Peterson Co-Op Elevator Co. Peterson, Iowa

Dale Anderson, above, manager of Peterson Co-Operative Elevator Company, provides complete facilities for his customers. The entire Elevator is a modern, up-to-date addition to Peterson, Iowa.

With 75 HP on the mill and 30 HP on the fan, full capacity operation of the Hammermill is normal routine. Handy, time-saving, quick-change screen controls are located on the main floor.

Minor feed additives are mixed and blended in a matter of minutes in the 2 ton Strong-Scott Triple Action Mixer.

"In the 7 months we've had our Strong-Scott Hammermill and Triple Action Mixer, our sales have equalled what they were the entire 12 preceding months.

"We grind all small grains," added Dale, "and have no trouble at all in grinding a two ton load in 10 minutes." Mixing, grinding, and conveying is a fast, automatically controlled operation at Peterson, Iowa.

"I sure like those specially hardened, sectionalized screens," said Dale. "Ours still don't show any wear whatsoever." Quick-change screens of various sizes in the Strong-Scott Hammermill offer ideal selection for custom grinding.

Equipment Designed For Better Processing

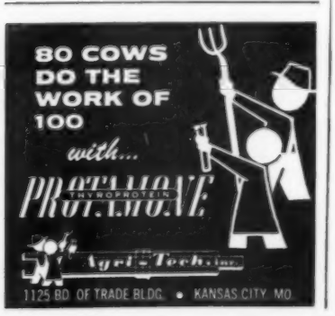
The Strong Scott Mfg. Co.

451 Taft Street N.E.
Minneapolis 13, Minn.

Let Strong-Scott show you how to cut operating costs and increase capacities.
Please send information on:
☐ Hammermill ☐ Triple Action Mixer

Name_____
Firm_____
Address_____
City_____ State_____

Dept. PI-59



Prater Pulverizer Co.

No. 7360—Bag weigher-filler, Bemis Bro. Bag Co.

No. 7361—Conveyor system, Wyatt Manufacturing Co., Inc.

No. 7362—Control panel, Richardson Scale Co.

No. 7363—Live poult display, Western Condensing Co.

No. 2985—Moisture balance, Seedburo Equipment Co.

No. 7364—Dog food ingredient, Western Condensing Co.

No. 7365—Bulk feed body, North American Manufacturing Co.

No. 7366—Poultry supply catalog, Anderson Box Co.

No. 7367—All-purpose litter, the Bares Co.

No. 7368—Bagging, weighing machine, Finco, Inc.

No. 7369—Semi-bulk handling system, Powell Pressed Steel Co.

No. 7370—Blackhead medication, Dr. Salsbury's Laboratories.

No. 7371 — Herringbone milking stall, James Manufacturing Co.

No. 7372—Injectible iron, American Cyanamid Co.

No. 7373—Animal health display, Bingman Laboratories, Inc.

No. 7374—Bulk hog feeder, Leach Manufacturing Co.

No. 7375—Control for hammermills, Schutte Pulverizer Co.

No. 7376—Bag packer, Bemis Bro. Bag Co.

No. 7377 — Pneumatic conveyor data, Sprout, Waldron & Co., Inc.

No. 8378—Bulletin on pulleys, Sprout, Waldron & Co., Inc.

No. 7379—Mobile feed mill, Seco, Inc.

No. 7380—Scoop control switch, Alden division, Amercon Corp.

No. 7381—Grain drier, Grain Drying Equipment Co., Inc.

No. 7382—Flexible coupling, T. B. Wood's Son Co.

No. 7383—Bag packer, Bemis Bro. Bag Co.

No. 7384—Automatic bag ejector, Richardson Scale Co.

No. 7385—Auger cattle feeder, James Manufacturing Co.

No. 7386—Magnetic separator bulletin, Stearns Magnetic Products.

No. 7386 — Data on fat addition, Sprout, Waldron & Co., Inc.

No. 7387—Coccidiosis book, Merck & Co., Inc.

No. 7388 — Bulletin on blowers, Young Machinery Co., Inc.

No. 7389—Car shaker data sheet, Syntron Co.

No. 7390—Pig creep feeder, Moorman Manufacturing Co.

No. 7391 — Movie on grit, Stone Mountain Grit Co.

No. 7392—Wall banner, Blatchford Calf Meal Co.

No. 7393 — Automatic hog feeder, Precision Equipment Co.

No. 7394 — Equipment catalog, Brower Manufacturing Co.

No. 7395—Power scoop data, Alden Equipment Division of Amercon Corp.

No. 7396—Poultry disease control, Associated Feed Products, Inc., and Naremco, Inc.

No. 7397—Bulk feed tanks, Agri-Tec Steel Corp.

No. 7398—Nutrient level card, Peter Hand Foundation.

No. 7399—Power shovel, Seedburo Equipment Co.

No. 7400 — Poultry pesticides, American Scientific Laboratories, Inc.

No. 7401—Loader for hopper cars, Productive Acres Manufacturing Co.

No. 7402—Bulletin on motor starters, Richardson Scale Co.

No. 7403 — Elevator equipment, Munson Mill Machinery Co.

No. 7404—Grain storage building, Stran-Steel Corp.

No. 7405—Silo counter display, Flavor Corporation of America.

No. 7406—Laboratory service data, Wisconsin Alumni Research Foundation.

No. 7407—Grain conveyor, cleaner, Dunbar-Kapple, Inc.

No. 7408—Air delivery feeder, Ripco Air Systems.

No. 7409 — High speed "Checkweigher," Thayer Scale Corp.

No. 7410—Feeder valve bulletin, Sprout, Waldron & Co., Inc.

No. 7411—Silage activator, Biochemical Corp.

No. 7412—Portable pasture waterers, Starline, Inc., and H. D. Hudson Manufacturing Co., distributors.

No. 7413—Multi-use feed wagon, Brower Manufacturing Co.

No. 7414—Poultry raising manual, Earl W. Garrison, Inc.

No. 7415—Feed mill, Shelby Manufacturing Co.

No. 7416—Automatic batching device, the Howe Scale Co.

No. 7417—Data sheet on shovel, Munson Mill Machinery Co.

No. 7418—Bovine mastitis information, Chas. Pfizer & Co., Inc.

No. 7419—"Vibratory" feeder, Eriez Manufacturing Co.

No. 7420—Screening feeder, Syntron Co.

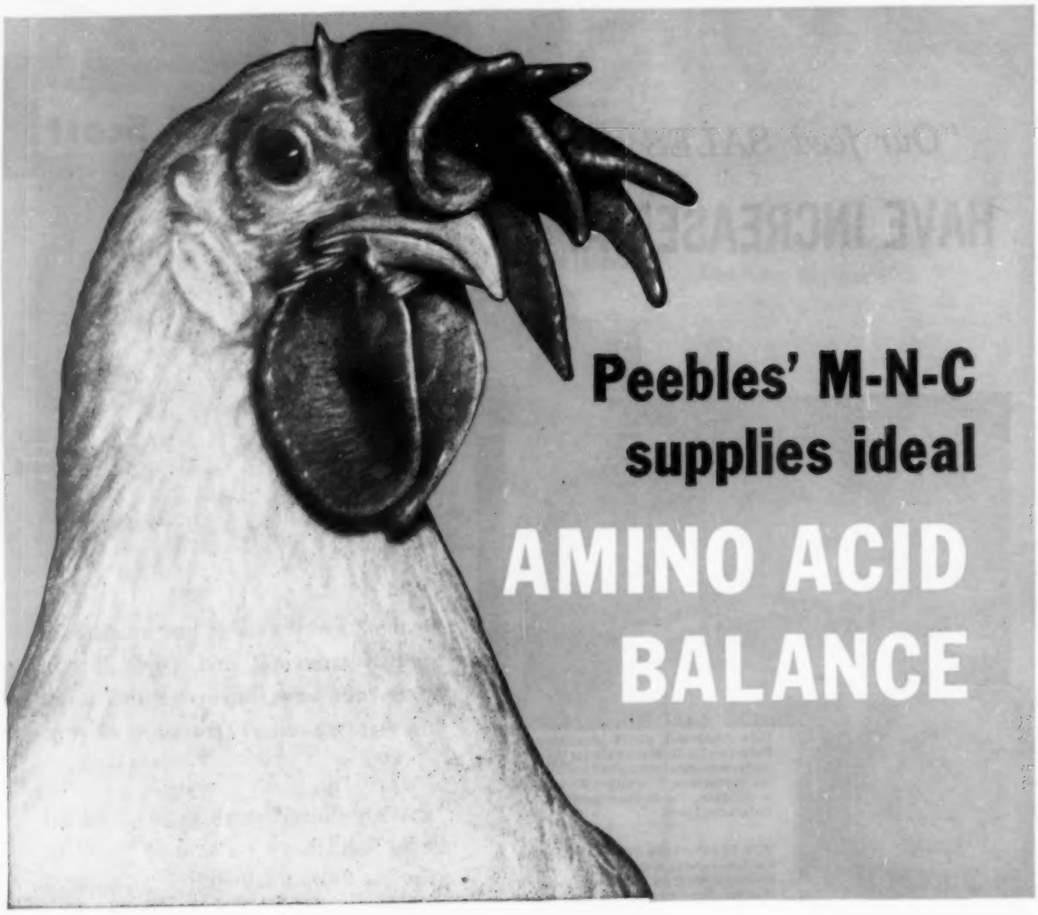
No. 7421—Supplement hog feeder, Brower Manufacturing Co.

Joins Cobb Staff

VINELAND, N.J. — The appointment of Charles C. Jones to the sales and service staff of Cobb's Pedigreed Chicks, Inc., has been announced by H. Ted Raymond, Jr., sales manager of the firm. Mr. Jones is attached to the Goshen, Ind., distribution plant, in the midwestern district, under the supervision of Dick Teel, new assistant sales manager for the northern division. Mr. Jones studied at Connors State Agricultural College, Warner, Okla., and George Washington University, Washington, and for the past several years he has represented a national feed manufacturer in a number of Iowa counties.

THREE MEN DIE IN PLANT

MORGAN CITY, LA.—A power failure at the plant of Hi-Pro Fish Products Co., manufacturer of a soluble for poultry and cattle feed, resulted in the death of three men this week. Electric power was off for several hours at the plant and one of the employees went into a tank of trash fish to pump them out by suction. He was overcome by ammonia fumes. Four other employees entered the tank, each trying to rescue the others. Dead were Garrett Markels, Lawrence Sheppard and Eugene Matthews.



Improves nutritional value and feed performance!

Here's the best way to step up the efficiency of your feeds. Incorporate Peebles' M-N-C (partially delactosed whey-product). For M-N-C gives you the vital amino acid balance that makes protein function with maximum effectiveness. M-N-C offers you the perfect, low cost source of the 12 essential amino acids.

In addition, M-N-C is concentrated to give you, pound for pound, 50% more non-lactose nutrients. Just 2% M-N-C supplies the same amount of Whey factor and other growth-promoting elements as 3% whole dried whey.

Peebles' exclusive spray-dried process assures uniform high quality. M-N-C's smooth, even texture provides uniform color and even distribution in mixed feeds.

Find out how M-N-C can answer your amino acid requirements and give your feeds added nutritional value. Write or wire today for complete information.

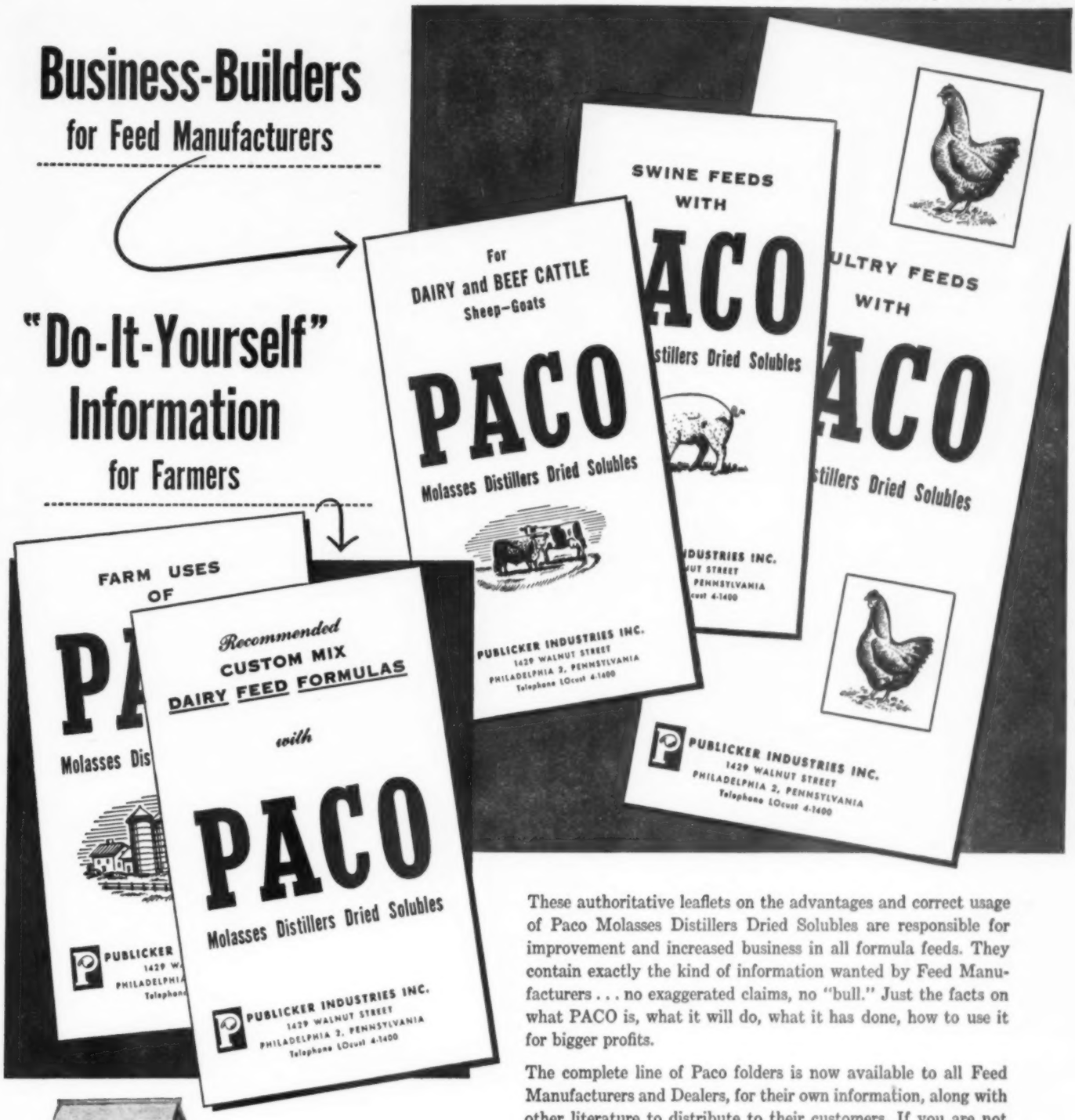
WESTERN CONDENSING COMPANY
APPLETON, WISCONSIN
World's Largest Producer of Whey Products

32 PLANTS *Coast to Coast*

ROLLED OATS
GROUND OAT GROATS
FEEDING OATMEAL FLOUR
PULVERIZED WHITE OATS
PULVERIZED FEED OATS
HY-QUALITY OATMILL FEED
REGROUND OAT FEED
COARSE GROUND OATS
WERTZ FEED PRODUCTS
SIOUX CITY, IOWA
Phone 20545

Business-Builders
for Feed Manufacturers

"Do-It-Yourself" Information
for Farmers



These authoritative leaflets on the advantages and correct usage of Paco Molasses Distillers Dried Solubles are responsible for improvement and increased business in all formula feeds. They contain exactly the kind of information wanted by Feed Manufacturers . . . no exaggerated claims, no "bull." Just the facts on what PACO is, what it will do, what it has done, how to use it for bigger profits.

The complete line of Paco folders is now available to all Feed Manufacturers and Dealers, for their own information, along with other literature to distribute to their customers. If you are not acquainted with PACO and its many advantages as a fortifier and "freshener" for all types of feeds, we will be pleased to send by return mail the data you check on coupon below.

ALSO AVAILABLE IN 50-LB. BAGS

Here is the ideal, fast-selling package for direct sales to farmers and cattlemen.

PACO MOLASSES DISTILLERS DRIED SOLUBLES

A PRODUCT OF PUBLICKER INDUSTRIES INC.
1429 Walnut Street, Philadelphia, Pa., Phone: LO 4-1400
MIDWEST SALES AGENT
The North American Trading and Import Co.
101 Arsenal St., St. Louis, Mo. Tel.: PR 6-0858
SHIPMENTS FROM PHILADELPHIA, PA. AND GRETNA, LA.

PUBLICKER INDUSTRIES INC.
Animal Feed Sales Department, 1429 Walnut St., Philadelphia 2, Pa.

Without obligation send the following:

Check Here
- ☐ POULTRY FEEDS with PACO
- ☐ SWINE FEEDS with PACO
- ☐ DAIRY and BEEF CATTLE FEEDS with PACO

Folders to distribute to our customers:

Indicate no. desired
- CUSTOM MIX DAIRY FEEDS with PACO
- FARM USES of PACO

CLIP THIS COUPON TO YOUR LETTERHEAD

Hoffman

for complete nutritional service

Hoffman-Taff Inc.
SPRINGFIELD, MISSOURI

Dehydrated **ALFALFA MEAL** High Carotene
From the Fertile Red River Valley of Minnesota
Write - Phone - Wire
RED RIVER ALFALFA CO.
Ralph Eickhof Phone ATlantic 1-1455 Crookston, Minn.

New York Firm Buys 2 West Coast Plants

NEW YORK—D. A. Coape-Arnold, executive vice president of E. F. Drew & Co., Inc., New York, has announced that the company has purchased the Malaga Oil Products Co., Lindsay, Cal., and the Strathmore (Cal.) Oil & Fat Co.

Strathmore will be a wholly-owned subsidiary of E. F. Drew & Co., and it will operate as Strathmore Vegetable Oil Co., Inc. Malaga becomes the Malaga Oil Products division of E. F. Drew under the new arrangement.

E. F. Drew & Co. has appointed John M. Hagerty general manager for its West Coast operations and he will continue also as sales manager of the agricultural division of E. F. Drew & Co. James Fowler, formerly associated with Malaga and Strathmore, will continue as manager of these operations.

Three bright little girls entered the museum one day and made straight for the Egyptian exhibit. They told the attendant they had come to see the "dead men." They stood in front of the case and stared at the mummies for a full 15 minutes.

As the girls were leaving, one of them turned to the attendant and asked cheerfully, "Do you catch them and stuff them yourself?"

◆ ◆ ◆

A good wife laughs at her husband's jokes, not because they are clever but because she is.

◆ ◆ ◆

The bachelor is a cagey guy
Who has a lot of fun.
He catches cuties on the fly
And never Mrs. one.

◆ ◆ ◆

A salesman's wire: "Stopped by hurricane, please wire instructions," was answered from head offices with: "Begin summer vacation, effective yesterday."

◆ ◆ ◆

A Texan, wife and little son entered a Carlsbad bar and when the Texan ordered two straight whiskies Sonny spoke up: "Hey, Pa, ain't Ma drinkin'?"

◆ ◆ ◆

An elderly man with a shy young girl entered a doctor's office, announced they needed blood tests for a marriage license.

The doctor eyed them, then asked, "How old are you?"

"I'm 87," the old man replied. "She's 17."

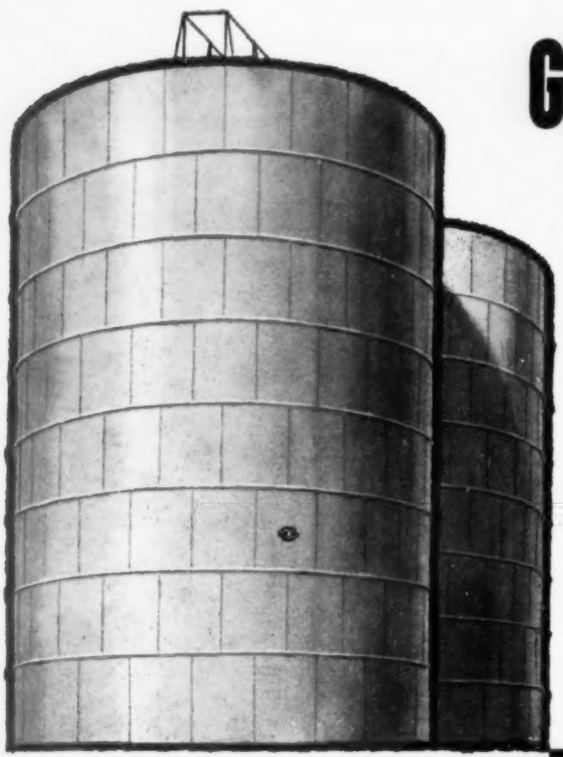
"What!" screamed the doctor. "Don't you realize that much difference in age could be fatal?"

"Oh, well," shrugged the old gentleman, "if she dies, she dies!"

◆ ◆ ◆

Caller: "Doctor, my husband has some terrible mental affliction. Sometimes I talk to him for an hour and then discover he hasn't heard a single word."

Doctor: "Madam, that's not a mental affliction—that's a gift."



GRAIN STORAGE PROBLEMS SOLVED ECONOMICALLY with PARKERSBURG BOLTED STEEL GRAIN TANKS

The **PARKERSBURG** name on a bolted steel grain tank is your guarantee of rugged durability, over-all economy and maximum protection against fire, insects, rodents and climatic conditions.

Because of the extreme flexibility of **PARKERSBURG** tanks, they can be enlarged to meet expansions—moved to other locations with a minimum of effort and without loss of any parts except foundation bolts.

Write for the name of your nearest **PARKERSBURG** dealer today.

Whatever capacity you need . . .

there's a PARKERSBURG tank for:

- on-the-farm storage
- commercial elevator operations
- feed mill storage
- feed retailer facilities
- alfalfa storage under inert gas pressure

THE PARKERSBURG RIG AND REEL CO.
QUALITY PARKERSBURG SERVICE
PARKERSBURG WEST VIRGINIA
TRADE MARK
MADE IN U.S.A.

Box 15295, Houston, Tex. • 600 16th St., Oakland, Calif.
710 Mid-Continent Bldg., Tulsa, Okla.
W.O.W. Bldg., Omaha, Nebr. • Box 1160, Parkersburg, West Va.

YOU CAN TELL...

she's had her
CAFNECTAR
this morning

Cafnectar fortifies milk replacers and calf starter formulas with the sweet milk flavor calves love.
Write for sample and information.

FLAVOR CORPORATION OF AMERICA
3037 N. Clark St. • Chicago 14, Illinois

Mr. and Mrs. Hugh Lett and sons, J. Howard and William, review their service routes on a map of Daviess, Knox and Martin Counties.

Purina Service Center grows by helping agricultural progress

From the day that Hugh and Ida Lett started a small hatchery on the farm, their business has been dedicated to serving agriculture. On this foundation, they have built one of the most important businesses in Washington, Indiana, serving surrounding Daviess County.

Farming in Daviess County has gained because Lett's Hatchery has introduced broiler growing, "Pig Parlors" and other agricultural advances in the area. Purina Research developments have been carried to rural folks by Lett's Hatchery's three graduate feeding advisors who especially like to work with "Farmers of Tomorrow."

Such service has been rewarding to Lett's Hatchery both in satisfaction and business volume. From their on-the-farm hatchery, volume has grown to an output of between 400,000 and 1,000,000 chicks a year. The volume of Chows has grown fifty-fold.

This is the headquarters building of Lett's Hatchery which has grown from a small store in an old residence.

Lett's Hatchery and The Washington National Bank have worked together in introducing "Pig Parlors" in the county.

Two portable mills travel from Lett's Hatchery to farms in the Washington market. Millman Harold Linneweber and Hatcheryman Harold Dunigan are shown here with the equipment.

PURINA ... YOUR PARTNER IN SERVING ANIMAL AGRICULTURE

JOE BROOKS

BY AL P. NELSON

Make It Easy for Patrons to Buy

When Windy Kramer, the routeman, drove into the yard at the Engebos farm, the warm spring rain was pelting down, steadily shrinking the mounds of dirty discolored snow, and the water was running everywhere.

Windy saw that the dairy barn door was open. Tucking a canvas covered package under his arm, he headed for the open barn door on a trot and managed to get inside without getting too wet.

The warm, moist hay and barn door odor assailed him pleasantly, and somehow Windy felt relaxed. He always liked to go into dairy barns and see the cows munching contentedly in their stalls. It was a quiet warm haven for farmer, salesman and cows alike, and Windy knew why farmers liked barn work. This was one of the reasons why he was a good salesman. He understood how farmers thought and what they liked.

"Hi, Windy," called tall, overalled Greg Engebos as he scattered lime along the manure gutter. "You don't expect to sell me anything today, do you? Shucks, it's raining so hard I can't do a darn thing but barn work. And you know, when a farmer can't get out into the field this time of year, he's not makin' the money he should."

"Oh, there'll be lots of dry sunny days soon," Windy said cheerfully. "Even if you don't want to buy anythin' today, I've got something I'd like to tack up on your wall, if you'll let me. Think you'll like it and it'll save you time."

Engebos wiped his hands on his overalls and came to meet Windy. "Lemme take a look at it, Windy. I'm darn careful what I allow to be put up on my barn walls. I don't want to get into more trouble than I already got."

"Trouble?"

Engebos nodded. "Yup. A salesman from a hatchery came in last week when I was busy and asked me if I'd like a nice calendar. I told him sure and went right on working, and he put it up. Then a little while later my wife came into the barn with the minister. I'm a deacon in the church, you know, and we talked about church matters. I couldn't figure why my wife looked at me like she hated me, but I soon learned the reason."

"Yeah?"

"Sure. After the minister left, my wife came back in the barn. She started scoldin' me about that nude woman calendar I had on the wall. She'd spotted it and turned it to the wall so the minister wouldn't see it. And when I told her I hadn't even seen it yet, she said she didn't believe me. She tore the calendar to pieces—she's still mad."

Windy could hardly keep from grinning. "That shows she loves you," he said. "My wife reacts the same way once in a while."

"Yeah, but I'm a little sore at my wife now," Greg said soberly.

"How come?"

"Well, I didn't even get a chance to look at that calendar. I oughta had one look anyway—to see if it was that bad."

Both Engebos and Windy burst into loud guffaws until tears came to their eyes.

No Cheesecake

"This thing I've got isn't a buxom girl calendar," Windy said. "It's something I think you'll find very useful." He brought forth a large red background card, with black printing on it, from the canvas wrappings.

"It's a sort of directory of the merchandise we handle and the services we can offer you," Windy explained. "It'll save you time in ordering. We've got everything classified."

Engebos stood reading the sign. It told of Joe's grinding and mixing service, his pelleting, his mobile feed service and listed all the complete feeds and concentrates. The rates for many of these services were also listed.

There was another division for seeds and fertilizers, but prices were not listed here. Still another division

Increased growth and reduced feed cost!

MAZOFERM®

Corn fermentation condensed solubles

MAZOFERM GIVES YOU ALL THESE BENEFITS:

- ☑ **Rich source of unidentified growth factors for layer replacement chicks, broilers and poults.**
- ☑ **Fluid handling; minimizes storage and handling costs. Mazoferm is 50-55% solids.**
- ☑ **Improved palatability of poultry feeds.**
- ☑ **Improved pellet hardness... and Low Cost!**

Check the results in the table below. Note how addition of Mazoferm increased growth and reduced feed cost. The savings in cost using the Mazoferm formula was $2.00 per ton!

Mazoferm Corn Fermentation Condensed Solubles, extracted from corn in the steeping process, contains water soluble unidentified chick growth factors, which are amplified by the fermentation process in Mazoferm production. Backed by the facilities of the world's largest corn refiner, you are assured of a steady, dependable supply of Mazoferm.

Write for full Mazoferm story and new 28-page brochure summarizing 3 years' work.

GROWTH AND FEED EFFICIENCY OF PULLET CHICKS (a) ON MAZOFERM (b)

NO.	RATION	INITIAL WEIGHT (GMS)	FINAL WEIGHT (7 WKS) (GMS)	AVG. FINAL WEIGHT (GMS)	TOTAL WEIGHT GAIN (7 WKS) (GMS)	AVG. TOTAL WEIGHT GAIN (GMS)	FEED EFF.	AVG. FEED EFF.	MORT.
1(c)	NECC (d) All Mash Chick Starter Ration	41	558	558	517	517	2.84	2.86	1.9
4		41	558		517		2.88		1.9
2	NECC–2½% Fish Meal + 2½% Mazoferm (e)	41	558	570	517	528	2.90	2.90	.6
5		41	581		540		2.90		5.1
3	NECC–2½% Fish Meal–2½% Corn Meal + 5% Mazoferm	41	571	576	530	535	2.89	2.90	2.6
6		41	581		540		2.90		.6
L.S.D.						12		.07	

(a) White Leghorn layer flock replacements (b) Mazoferm corn fermentation condensed solubles (50-55% solids)
(c) 156 white Leghorn pullets per lot, floor brooded under electric hovers. Chicks started 4/7/58
(d) New England College Conference all-mash chick starter ration, 1956 (e) Total fish meal replacement. No attempt to balance protein.

MAZOFERM CORN PRODUCTS SALES COMPANY
17 BATTERY PLACE, NEW YORK 4, N.Y.

for the
FEED INDUSTRY

- Chemical Analyses
- Vitamin Assays
- Drug Assays
- Spectrographic Analyses
- Chick Feeding Tests
- Consultation
- Formula Reviews

Write for Schedule of Charges

FEED SERVICE DIVISION
LIME CREST RESEARCH LABORATORY
R. D. 1, Box 67 Newton, New Jersey

LIMESTONE PRODUCTS CORP. OF AMERICA

James Stephenson Kermit Tucker

KEY CHANGES—Claude I. Carter, vice president and general manager of Alabama Flour Mills, Decatur, Ala., has announced two key personnel changes for the company. Kermit Tucker, former manager of the company's research farm, has been named head of the new beef feed-out program. James Stephenson, recently employed by the company, will supervise the farm's research.

told of farm supplies and listed about 20 of them, including livestock and poultry remedies, farm hardware and poultry and barn equipment, etc.

"Holy cow!" said Engebos, "I didn't know you fellows handled all this stuff."

"That's why we made up this directory," Windy explained. "We can thumbtack it on the wall for you, where you can see it to remind you of things you may need. And we've got a handy order sales book for you, with the same items listed."

"What do I need that for?"

"Well, as you read the tacked up sign," Windy said, "you may want to write down some of the things you need. The order book is for that purpose. The items are printed to save you writing time. Just check the things you want and write in the quantity."

Engebos chuckled. "By golly, you feed dealers are gettin' so you wanta do everything for us farmers, even to wipin' our noses."

"Well," countered Windy with an infectious smile," you fellows like it, don't you?"

"Sure we do," admitted Engebos. "Since I got bulk service I don't handle feed so much as I used to. Get along without a hired man part of the year, too, when the old lady's willing to help me."

"Then I can tack up this sign? Where would you like it?"

Engebos frowned slightly. "Listen, you can't tack it up until you put a girly girly calendar underneath. Then if I ever want to look at the calendar all I have to do is take out a few thumb tacks."

"You're not serious, are you?"

"Why, sure I am," chuckled Greg. "I just want to get the old lady's goat. Gets kinda dull out here on the farm, you know. I wanna see her face when she finds that calendar. And she will. Don't you worry."

Windy swallowed, then blinked. "B-but, Greg, when she finds that calendar, she'll think Joe Brooks does this sort of thing regularly and then she'll tell you not to buy feed from us any more."

"Naw, Joe ain't got calendars like that. His are pretty tame. I hear the garage man on 6th and Locust has a lulu. Get one and bring it out next trip and we'll put it under Joe's sign. When the old lady spots it—and she will—she'll read the garage man's name. She'll know you didn't do it."

"Oh well, if that's the way you want it," Windy grinned sheepishly. "But be sure to read our sales and service sign once in a while. Don't look at the calendar too much."

"You leave that to me," said Engebos, with a grin. "I never overdo a good thing."

POULTRY FIRMS CHARTERED

JACKSON, MISS. — Charters issued recently by the secretary of state's office here include McCarty Poultry Farms, Inc., Magee, and Blackwood Poultry Farms, Drew.

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Researcher Studying Chick 'Brain Fever'

PHILADELPHIA — A potentially serious virus disease of young chickens, avian encephalomyelitis, is under intensive research investigation at the poultry diagnostic laboratory of New Bolton Center, the Chester county teaching research and service unit of the University of Pennsylvania School of Veterinary Medicine.

Dr. F. George Sperling, assistant professor of veterinary pathology, who is directing the research, said the disease is not transmissible to man. He defined it as a brain fever in young chickens.

"The disease is quite serious to poultry raisers," he said. It is fatal to chicks, who get it congenitally from their mothers. It does not affect turkeys.

Chicks suffering from the disease stagger, head and tail trembling, with a pronounced tremor over the entire body. Unable to fend for themselves, many of the diseased birds die eventually from starvation.

Some, however, recover and go into production themselves. Dr. Sperling said he thinks some of these birds are still infected, and expose healthy birds. He pointed out that it is difficult to detect the disease in chickens that have recovered. The only symptom in mature laying birds is a slight 1 to 10% drop in egg production.

In an effort to control the possibility of AE virus appearing in hatchery eggs and resulting in production of infected chicks, some hatcheries are inoculating their breeding hens with either live or killed virus vaccines, and others are watching egg production of breeders carefully and removing the eggs of those with suspicious drops in production, he said.

The periodic rising and subsiding of the disease leads Dr. Sperling to believe that "somewhere there is a reservoir of AE virus, and we are trying to find it."

In his investigation, Dr. Sperling has been breeding full grown chickens known to have recovered from the disease. After hatching, the chicks are examined for the AE virus. He said he has not been able to establish conclusively that some recovered birds are carriers, "but we have learned that there are several key factors we have not yet applied."

Plans Storage Facility

CHARLES CITY, IOWA — Construction of an all-steel storage building for Nutrena Mills, Inc., Minneapolis feed firm, is under way here. Nutrena officials said the building will be 120 by 40 ft. and will contain office space, bulk scales, conveyors and other equipment to handle feed in bags and bulk. Completion of the building is expected about May 1.

Roger W. Barton Ernest T. Rollins

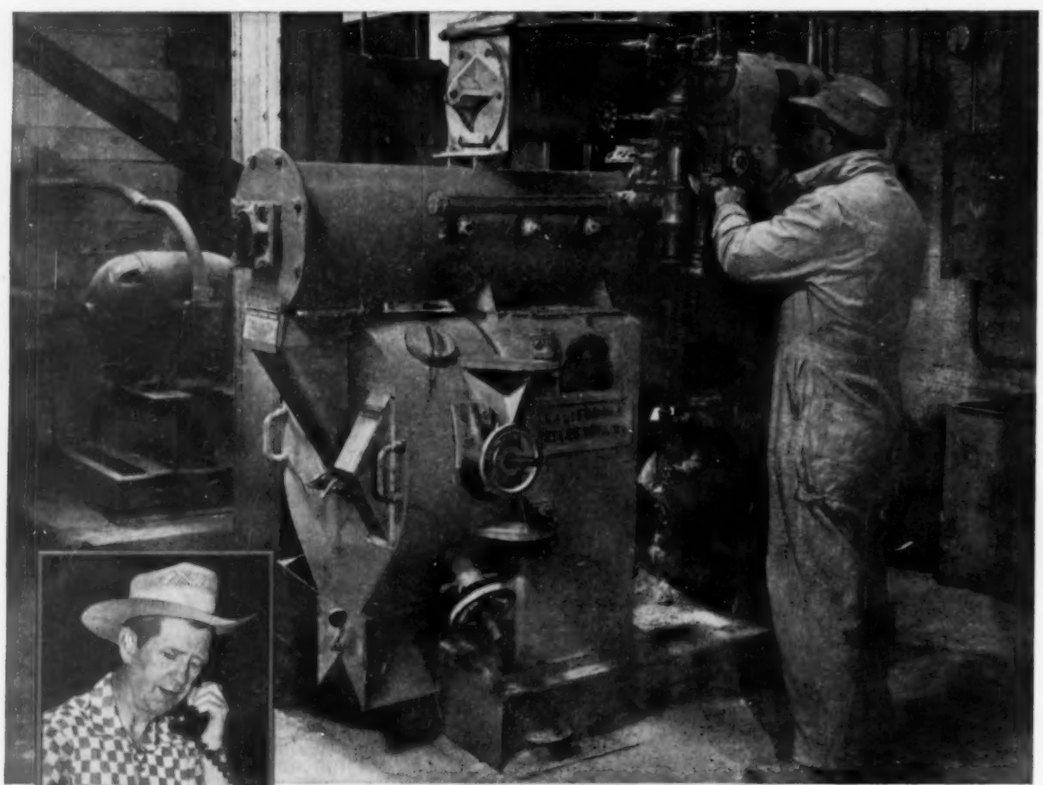
ELECTED TO BOARD—Two executives of Stephens-Adamson Co., Aurora, Ill., manufacturer of bulk handling systems and other products, were elected to the board of directors of the company recently. Named were Roger W. Barton, export manager, and Ernest T. Rollins, treasurer. Mr. Barton has been with the firm since 1948 and Mr. Rollins since 1926. Other board members were reelected.

Ghostley School

ANOKA, MINN.—A sales training school conducted by the Ghostley Poultry Farm was attended by 120 hatcherymen from midwestern states and more distant points. Speakers included Jim Hill, Minneapolis farm radio reporter, and the following Ghostley personnel: Ray Mickelson, head of blood grouping; Andy Wyatt and William Simpkins, geneticists; Joe Eustice, sales promotion manager, and Fred Ghostley.

FEEDLOT CHARTERED

FRESNO, CAL. — The Baird & Coffman Feed Yard is now incorporated at a valuation of $75,000. The central California feedlots are owned principally by Gordon K. Baird and John Coffman, and by Clovi and Robert L. Baker.



Harry Heist (left), whose CPM "Hyflo" Pellet Mill, shown above, has helped sales soar.

CPM Helps Cheyenne Feed Dealer Win Sales Increase Competition Over 350 Others

It's not hard to see why Harry Heist, spark-plug manager of A. & C. Feed Co., Inc., Cheyenne, Wyoming, is one of California Pellet Mill's biggest boosters.

In 1957, with about 60% of his sales going to large cattle and sheep ranchers, Mr. Heist saw how this volume could be considerably increased by pelleting. That's when he installed his CPM "Hyflo" Pellet Mill.

"Pellet feeding has been the custom in this range country for many years," says Mr. Heist. *"The ranchers took to our pellet readily because it's clean and hard, easier to handle, there's less waste, and it can be put out in the snow where livestock can reach it.*

"During the winter season I produce between 60 and 80 tons daily, and have been able to enlarge my territory significantly and improve my competitive position. Introducing pelleting into my operations helped give me the highest sales increase in a seven-state area in competition with some 350 dealers."

Mr. Heist's success story is typical of many feed manufacturers – small, medium and large – who have installed California Pellet Mills for *highest* pellet production at *lowest* cost per ton with *lowest* upkeep and maintenance cost. Write today for name of your nearest CPM representative. He will be glad to give you all the facts.

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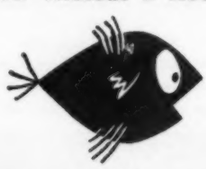

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Efficacy as measured by	Av. wt. (lb.)	3.47	3.44	3.45	+.02
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	Av. Coccidiosis Mortality (%)	.04	.52	.14	—.10
Color		natural	natural	bright	
Subclinical Infection and Intestinal Coccidiosis		practically eliminated	outbreaks	Subclinical Infection present...unnatural brightness of pigmentation makes early detection difficult	

*Note: The point spread for Coccidiostat B ranged from a high of 119 to a low of 49—when Subclinical Infection was noted as a result of the build-up of coccidial oocysts, under relatively humid conditions. During this same difficult period the point spread for flocks on NiCarb varied from a high of 121 to 96.

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FEEDSTUFFS
A WEEKLY NEWSPAPER
For the Feed Manufacturer, Feed Jobber Feed Broker and Feed Dealer

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New Pelleting Mill

SCOTT VALLEY, CAL. — A new local market for Scott Valley hay and grain, much of which has to be sold out of the area, is being provided by a new pelleting mill a mile north of Ft. Jones.

The mill, located on Orrin Heinke's Star ranch and jointly owned by Mr. Heinke, Robert Eiler, Gazelle, and Carl McConnel, Etna, is a corporation known as Scott Valley Pellet Mills, Inc.

Edward F. Kellog, animal husbandry graduate of the University of California, supervises the mill which now employs four men. He expects to add two more shifts of three men each during the haying season.

Annual Broiler Test On in New Hampshire

DURHAM, N.H. — The poultry science department of the University of New Hampshire here has begun its seventh annual broiler test at its modern test building on the campus. Chicks from many parts of the U.S. again will be under observation for nine weeks for a study of body weight, feed conversion, mortality and dressing grades.

Entries are divided into two classes, commercial and experimental and, for the first time this year, entries in the commercial class consist of hatching eggs selected by county agents from supply flocks of the entrants. Experimental entries consist of chicks selected by county agents, but these are not necessarily representative samples of the stock available commercially for broiler production. Emphasis is placed on future poultry developments.

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Duluth Exchange Elects Officers

DULUTH, MINN.—J. R. McCarthy, vice president, Capitol Elevator division, International Milling Co., was recently reelected president of the Duluth Board of Trade. Lyle Patterson, manager, Benson-Quinn Co., was reelected vice president.

Directors elected for three-year terms were G. C. Wilson, J & O Grain Co., and J. H. McCarthy, Norris Grain Co.

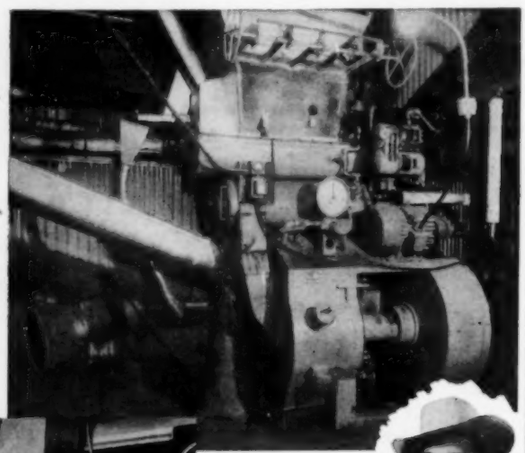
Renamed to the board of arbitration for one year were M. P. McGraw, Russell-Miller Milling Co. and C. W. Bodin, McCarthy Bros. A new member is James E. Harnstrom, Osborne McMillan Elevator Co.

Reelected to the board of appeals were C. E. Fuller, Jr., Thomson & McKinnon; C. E. Peterson, Russell-Miller Milling Co.; Helmer Grenner, Archer-Daniels-Midland Co.; E. B. Carey, Cargill, Inc., and George V. Gibbs, Atwood-Larson Co.

Robert E. Syster — John Ebersole

PLANT MANAGERS—Appointment of new managers for plants at Indianapolis, Ind., and Harrisburg, Pa., was recently announced by Central Soya Co., Inc., Ft. Wayne, Ind. Indianapolis plant manager is Robert E. Syster, previously plant manager at Harrisburg. John Ebersole, formerly assistant plant manager at Gibson City, Ill., was moved to the Harrisburg post. A graduate of Dickinson College, Carlisle, Pa., Mr. Syster joined Central Soya in 1942 as plant auditor at Harrisburg. He had been plant manager there since 1955. Mr. Ebersole, graduate of Franklin and Marshall College, Lancaster, Pa., joined Central Soya in 1949 as chief chemist of the Harrisburg plant. From 1951 to 1957 he served as quality control supervisor, then as general foreman and later as assistant superintendent in a feed mill. He also has been production engineer and assistant plant manager at Gibson City.

Proving the Versatility and Performance of Wenger Multi-Duty PELLET MILLS

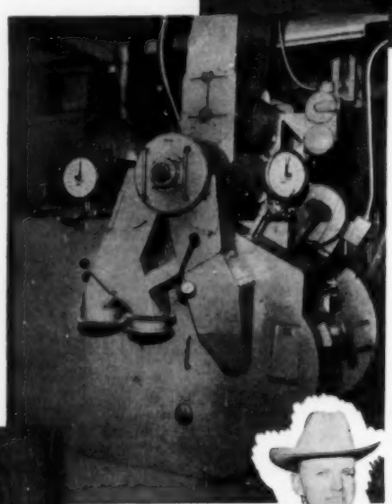


Although engineered primarily as a hard pellet mill, the Wenger Multi-Duty is exceeding expectations in every field of feed processing. For producing hard pellets (with or without liquids) Wenger blended mash feeds, and with Hi-Molasses pellet extruder available as an optional extra, the Multi-Duty represents the greatest advance in feed processing in many years.

FOR ECONOMY—
- in total equipment cost
- in man hours per ton of production
- in operation
- in liquid proportioning
- in floor space
- in installation costs
- in minimizing contamination hazards

No other pellet mill is the equal of the Multi-Duty.

Write for Catalog



Mr. Ray Steel, Vice Pres. Indianola Operations, Honeggers', Inc. Indianola, Iowa

Honeggers' 100 HP Multi-Duty Pellet Mill which is used in producing both hard pellets and Hi-Molasses pellets in their new mill at Indianola, Iowa.

Mr. Steele says "Our new Wenger Multi-Duty does even better than we had hoped for. I'm sure this machine is the answer to the need in the feed industry for a smaller, but still a more efficient feed manufacturing plant."

Mr. Larry Jenkins, President Texas Feed & Cattle Co., Kilgore, Texas

Wenger's 100 HP Multi-Duty Pellet Mill with built in liquid conditioning feeder for fats and molasses is the heart of their fine new mill.

Mr. Jenkins says: "We are obtaining optimum quality control in blending liquids in our Wenger Multi-Duty Pellet Mill with excellent tonnage and a minimum of fines."

Mr. Wendell S. Haley, Manager Ashland Cooperative Exchange Ashland, Kansas

Ashland is using a new Wenger 50 HP Multi-Duty Pellet Mill to make Hard Pellets and Hi-Molasses Pellets as well as molasses meal feeds.

Mr. Haley states that, "In my opinion the Multi-Duty is tops in performance and the Wenger Company is tops in service and 'follow thru'."

Wenger Mixer Manufacturing
SABETHA, KANSAS • PHONE 111
Standard of the Industry for Liquid Feed Mixing, Pelleting and Cooling Equipment.

Arkansas Tests Feed Weight Guarantees

LITTLE ROCK, ARK.—A check of 41 shipments of feed by the Arkansas State Plant Board recently showed 13 of the lots to be overweight and 28 underweight, according to a board report.

Inspectors weighed the feeds to check against the labeled net weight guarantees. The 41 feed shipments represented 3,952 bags. Thirteen lots, representing 2,258 bags, exceeded the net weight guarantees by an average of .52 lb. per bag. Found underweight by an average of .65 lb. per bag was a total of 28 lots representing 1,694 bags.

The extremes were an overweight of 2.01 lb. for one lot and 2.52 lb. underweight for one lot.

NAMED OFFICER OF FIRM

MILWAUKEE, WIS.—Richard W. Getz has been named assistant vice president of the Kurth Malting Co., Milwaukee. He joined the sales force of the firm last year after holding sales posts with the Goodyear Tire & Rubber Co. and the Continental Can Co.

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Processors and handlers of brewer's grains
St. Louis elevator . . . 2,500,000 bushels capacity
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ry graduate of the University of Cal- | again will be under observation for | poultry developments. | Pasadena, California

Fatherless Turkey Normal Size, Weight

PULLMAN, WASH. — The parthenogenetic turkey (hatched from a non-fertilized egg) produced at Washington State College is now a year old, and is normal in size and weight.

However, reports from the college indicate the bird is sexually immature, and that chances are slim that he will father a new genetically pure strain of broad-breasted white turkeys.

Dr. Igor Kosin, WSC poultry scientist who helped the papaless bird out of its shell a year ago, says its general behavior is somewhat under par when compared with other turkeys of the same age—it does not strut or gobble when anyone approaches. He said the bird is curious and affectionate, and has a healthy appetite.

Prior to producing the parthenogenetic turkey, Dr. Kosin had been incubating eggs from virgin turkey hens for the past six years as part of his research on the causes of low hatchability of turkey eggs.

Theoretically it should be possible to produce sexually mature animals from non-fertilized eggs, Dr. Kosin explained, adding that such an individual could tell geneticists a great deal about heredity. "He would have the advantage of genetic purity since genes are supplied by only one parent. Genetic purity, in turn, means more uniformity in the appearance of offspring. On the other hand, it could also mean lower vitality," the poultry scientist explained.

Dr. Kosin commented further that even if the parthenogenetic turkey fails to mature, he will still contribute a great deal to scientific knowledge by providing information concerning the physical and cellular structure of a warm-blooded parthenogenetic animal.

GIVE HIM ADVICE HE'LL APPRECIATE

Remind him to order Morton T-M Salt. See page 79.

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Get all the facts today. Sell famous Calvita Calf Formula and get the benefits of Calvita's aggressive promotion and sales helps. Let Calvita open the door for related dairy herd sales.

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Feed Service BULLETIN BOARD

IDEAS TO HELP YOUR CUSTOMERS

Quality Egg Check List

Here's a check list from the University of Massachusetts that may help producers determine whether they are doing all they can to market quality eggs.

Production practices—

....Clean, dry nesting material.

....Eggs gathered four times daily.

....Nesting space, one nest or 1 sq. ft. for each five birds.

....Dry floor litter in pens.

Egg handling practices and facilities—

....Humidity of egg storage room (50-75%).

....Temperature of egg storage room (50°-75° F.).

....Two-section egg room (cooling room and work room).

....Eggs adequately cooled before packing.

....Eggs gathered in wire baskets.

....Egg work room and holding room clean and free of articles not used in operation.

....No material in egg room that would give strong odor to eggs.

....No evidence that dirty eggs are a problem (adequate cleaning facilities).

....Racks or shelves used to hold baskets during cooling.

....Egg cases are pre-cooled in egg storage room for at least 24 hours.

....No worn or soiled flats and fillers in area.

....Eggs sold directly to consumers are candled.

....Eggs on hand in cases, baskets and boxes are clean and packed correctly.

....Eggs brought immediately to cooling room after gathering.

....Holding room refrigerated and will hold temperature.

....All eggs marketed at least once every seven days.

◆

Booklet Aid to Feeder

The feeder who may be thinking of expanding or improving his livestock operation will find useful a 56-page booklet published by the Midwest Plan Service.

The booklet, available for $1 from county extension agents or from the agricultural engineering department of state agricultural colleges, provides detailed plans for more than 100 different pieces of equipment.

In it are blueprints for everything from entire feedlot layouts to feed bunks, self feeders, squeeze chutes and even information on building electrical switching units for automatic feedings.

◆

Fly Control Time

It's a good idea to remove potential flies now from the poultry house by cleaning out dropping pits and larvae. Producers should haul the manure away and not pile it close by.

If the pits can't be cleaned immediately, the poultryman should plan to use insecticide drenches in the pits before the maggots become flies. The University of Massachusetts recommends that the insecticide be applied liberally to the edges of the pits, where the larvae congregate. Precautions must be taken to use the insecticides as directed on labels. There's a possibility that poultry would be harmed by coming in contact with the chemicals.

◆

150 Lb. Vital Point

A hog's ability to make rapid and efficient lean-meat gains seems to fall off at the time it reaches a weight of about 150 lb., and, at the same time, the per cent of fat content in a carcass rises more rapidly as a hog gains weight over the 150-lb. mark.

Dr. Steve Zobrisky, University of Missouri assistant professor of animal husbandry, says this information was obtained from a research project involving a study of carcasses from various weights of hogs.

The study also showed that a hog's dressing percentage increases as he gains weight. But, as the dressing percentage went up as a hog gained weight, its hams became a smaller and smaller part of the total carcass. The percentage yield of hams dropped 3% with each 100-lb. increase in carcass weight.

Dr. Zobrisky points out that most of the increase in dressing percentage was in the form of body fat. While the ham made a 5.8-fold increase in weight, ham fat increased 14.8 times. At the same time, the content of lean

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Plus OTHER Essential Nutrients Your Calves Need!

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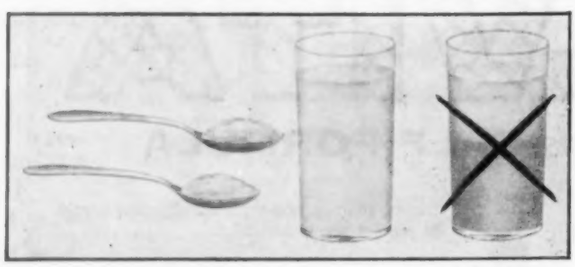
ASK FOR FREE FEEDING SAMPLE TODAY!

Colorful 30" x 21" weatherproof poster—can be used as outdoor or indoor display to sell more Calf-Pab for you. Mail coupon below!



2 NEW visual suspension test

Prove to yourself how easily Calf-Pab mixes with liquid . . . stays in suspension to assure calves of *uniform* nutrition throughout the feeding. Notice how little sedimentation . . . to help eliminate nipple clogging.

Simply mix two teaspoonsful of Calf-Pab in 6 oz. glass of warm water. Note the length of time Calf-Pab stays in suspension to assure dairymen their calves will get the full nutritive values of Calf-Pab. Note too, there is no complete separation of fats with Calf-Pab.

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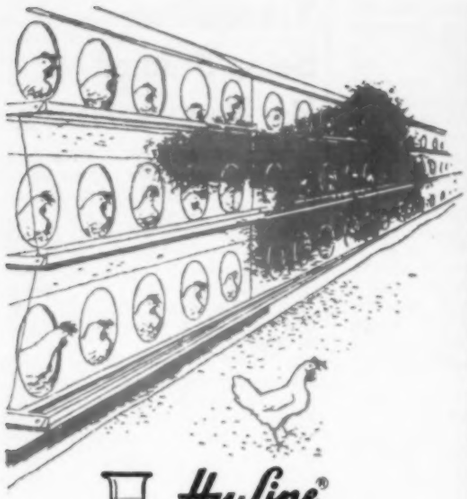

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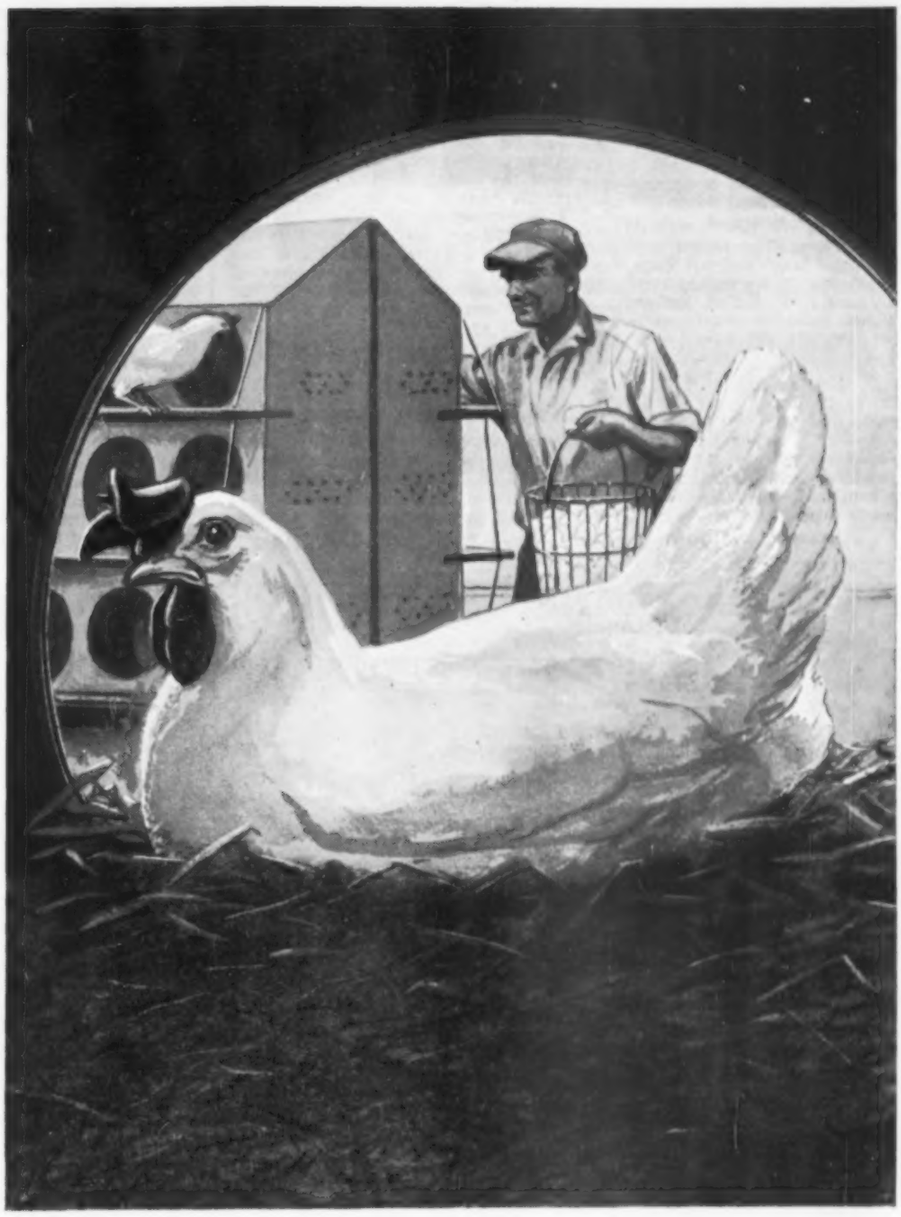

puts in full profit time in the laying house

Official tests confirm it: Hy-Line 934 Series white-egg layers available this year stay busy in the laying house

. . . 244 eggs per bird in 18 Random Sample Tests (1956-58)

Never in the history of Random Sample Tests has one layer so outperformed the field. In the past two years, Hy-Line 934 Series layers finished first, second, or third 13 times in these tests. No other breeder earned more than 6 of the top three places. Hy-Line 934 Series layers, available this year, averaged 69¢ more profit than the average of all other entries.

And these are Hy-Line champions you can add to your flock this year! The reason: *Precision Genetics* — Hy-Line blood genetics working in combination with proven inbreeding and hybridizing to develop the final bird which can be reproduced by the millions.

Hy-Line, Tops in All Four Important Income Factors

- HIGH PRODUCTION
- LIVABILITY
- FEED EFFICIENCY
- LARGE WHITE EGGS

Precision Genetics means Hy-Line layers that are consistently high producers in the laying house, economical to keep and feed, wonderfully resistant to stresses and mortality. They lay large eggs early, returning high profits over feed costs.

Bird after bird, year after year, you're money ahead when you choose and stick with Hy-Line white-egg layers — superior birds because they're products of revolutionary *Precision Genetics*. See your local Hy-Line salesman for details.

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Midwest Plant: Des Moines, Iowa • West Coast Division: Nampa, Idaho
CEDAR RAPIDS, IOWA

in the ham increased by 4.4 times and the bone weight went up 3.1 times.

◆

Cutting Feed Waste

Since the feed bill is usually 60-65% of the total cost of producing a dozen eggs, one of the best ways for the poultryman to hold down production costs is to cut feed waste and costs.

He can reduce feed waste by:

. . . Never filling feeders more than one third to one half full. Hens waste nearly half of the feed in a full feeder, says S. F. Ridlen, University of Illinois extension poultry specialist.

. . . Controlling rodents. It costs $10-$20 a year to keep a rat.

. . . Keeping production high. A hen laying 250 eggs a year eats somewhat more feed than one laying only 100 eggs—but as production goes up, feed consumption and cost per dozen eggs go down. And the less body weight a hen has to carry, the less feed she needs to maintain her body.

. . . Planning and managing carefully. Common-sense attention to ventilation, providing plenty of feeding and watering space, controlling parasites and wise buying and selling all help.

Another point for the producer to remember in holding down feed costs is that the price on the poultry feed bag may not tell accurately the value of the feed.

In tests at the Ohio Agricultural Experiment Station a mash that cost only $3 cwt. held up production just as well as a more potent ration that cost $4 cwt. In another case, however, more than 5 lb. of a feed costing only $2.50 cwt. were needed to produce a dozen eggs, compared to less than 4 lb. of a $3-cwt. feed.

◆

Hand-Feeding of Sows

Hand-feeding of sows still seems to have a place in the swine operation. It's considered the best way to control the gestation period gain.

The common tendency is to overfeed, says Dr. D. E. Becker, University of Illinois swine researcher, resulting in weaker pigs at farrowing time and greater losses of baby pigs.

It's possible for the feeder to mix a bulky ration using ground oats, corncobs or other bulky ingredients for self-feeding sows, but the bulky ration often costs nearly as much a pound as a corn-soybean meal mixture. And sows eat about twice as much of the bulky self-fed ration. The producer can't hope to hold gestation period gains down to desirable levels by self-feeding a fattening-type ration of shelled corn and a protein supplement free choice, Dr. Becker says.

Favorable results have been reported for feeding bred sows silage. However, Dr. Becker cautions, silage alone may not be satisfactory—it may need supplements.

NEW MILL OPENS

WEBSTER CITY, IOWA — Flugstad Farmers Cooperative, Webster City, held grand opening recently for its new feed mill. Equipment includes 22 bins, a Strong-Scott mill, Jacobson mixer and Roskamp roller.

Tranquilizer Being Studied For Poultry Use

STILLWATER, OKLA.—The tranquilizer reserpine may become an ingredient of poultry layer rations, according to Oklahoma research.

Oklahoma State University has announced that test results show that hens fed reserpine were significantly heavier and eggs had thicker, stronger shells than eggs laid by control hens which weren't fed the reserpine.

Dr. J. C. Gilbreath of the poultry science department, Oklahoma State, reported that in tests he conducted during the summers of 1957 and 1958 reserpine produced beneficial effects when the drug was added to the hens' feed at the rate of only two parts per million.

Dr. Gilbreath found in his tests on 800 hybrid hens that mortality among treated birds and those which got no reserpine was about the same. Reserpine-treated hens ate less feed, but produced fewer eggs—reducing the advantage of feed saved.

No significant results were obtained by Dr. Gilbreath in a test to see if reserpine would reduce fighting and death losses among male chickens.

Dr. Gilbreath said egg weight and shell thickness go down, with resulting loss to producers because of breakage and lower grades, during periods of high temperature. Oklahoma has its share of such high temperatures. U.S. Weather Bureau records for the past 30 years show that Stillwater and Muskogee average 80 days per year when the temperature reaches 90° or above, Shawnee averages 84 such days, Ponca City 93, Lawton 104 and Frederick 114.

Reserpine is so new and so little is known about its possible effects on poultry meat and eggs, that its use in the poultry industry has not yet been approved by the U.S. Pure Food and Drug Administration, it was noted. The reserpine which Dr. Gilbreath used in his tests was provided by Ciba, a Swiss pharmaceutical firm with an American branch which headquarters in Summit, N.J.

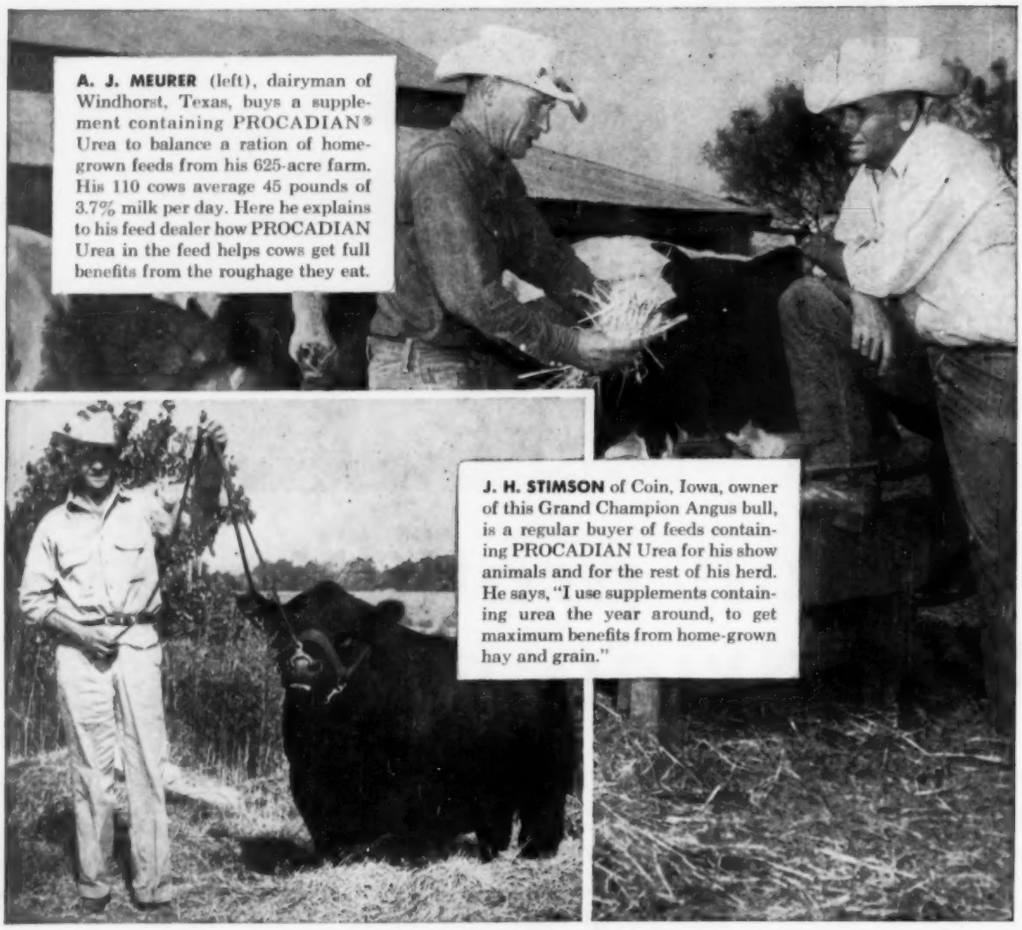
"We are interested in knowing more about effects of reserpine on egg production, feed consumption, broodiness, fertility, and egg hatchability," Dr. Gilbreath said.

Currently, Quinton B. Welch, Oklahoma State University graduate student, is working under Dr. Gilbreath's direction in a trial of reserpine for turkeys. Dr. Gilbreath also has started another test with layer hens, in which he is using "Stelazine," another new tranquilizer, being provided for experimental purposes by the pharmaceutical firm of Smith, Kline and French.

Dr. Gilbreath noted that scientists do not know just how reserpine acts on the body of a chicken. However, the chicken seems to "live slower" and make better use of the calcium and other minerals which go into the egg shell. Experiments which scientists have conducted with various other animals suggest that reserpine acts directly on the brain to slow down heart beat and respiration.

Reserpine is derived from the roots of a low-growing shrub called "Rau-

These cattlemen specify "feed urea" in the supplements they buy



A. J. MEURER (left), dairyman of Windhorst, Texas, buys a supplement containing PROCADIAN® Urea to balance a ration of home-grown feeds from his 625-acre farm. His 110 cows average 45 pounds of 3.7% milk per day. Here he explains to his feed dealer how PROCADIAN Urea in the feed helps cows get full benefits from the roughage they eat.

J. H. STIMSON of Coin, Iowa, owner of this Grand Champion Angus bull, is a regular buyer of feeds containing PROCADIAN Urea for his show animals and for the rest of his herd. He says, "I use supplements containing urea the year around, to get maximum benefits from home-grown hay and grain."

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wolfia." More than 40 species of Rauwolfia grow wild throughout the world, but India and African countries are the principal commercial sources of the roots.

Grain Standards Revision Proposed

WASHINGTON—A proposal to revise the official grain standards of the U.S. for mixed grain has been announced by the U.S. Department of Agriculture.

The announcement said that since the feed oats and mixed feed oats standards will be canceled effective June 1, a few minor changes in the standards for mixed grains are desirable in order to permit wild oats and certain mixtures of oats and wild oats to be graded as mixed grain. This is provided for in the mixed grain standards.

No public hearings will be held, USDA said.

Expansion Completed

NEWBERG, ORE.—Chehalem Valley Mills, Newberg, has completed an expansion program with the installation of new bulk delivery bins and hoppers, reports Dale Boucher and Tom Pfund, owners. Grain storage capacity has been increased and a pelleting mill and bulk feed delivery have been added to meet special feeder requirements.

ARKANSAS MILL DESTROYED

CENTERTON, ARK.—A fire of undetermined origin destroyed the Swindell Feed Mill here, causing damage estimated by the owner at more than $40,000. Condrey Swindell, owner of the feed company, said the blaze apparently broke out in a warehouse and was spread to the mill by a high wind. A bulk feed truck and approximately $20,000 worth of feed were destroyed, along with the warehouse and mill. Mr. Swindell said he planned to replace the facility.

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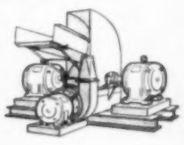

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Milk Output Per Cow Moves Upward as Numbers Decline

WASHINGTON — The U.S. dairy herd's usual annual achievement of producing more milk with less cows wasn't quite matched during 1958.

For the first time since 1952, the decline in dairy cow numbers offset increasing production per cow, according to U.S. Department of Agriculture reports. This is how the totals stacked up for the year:

- Milk cows on farms averaged 19,784,000 head, 3% less than in 1957 and the smallest number since annual estimates were started in 1924. Except for 1953, numbers have decreased each successive year since the record high of 25.6 million head in 1944.
- Rate of production per cow increased to a record high of 6,330 lb., compared with 6,160 lb. the previous year.
- Despite this record output per cow, the drop in numbers of milk cows was enough to cut total production for the year from a record of 125,939 million pounds in 1957 to last year's total of 125,236 million, a drop of 703 million pounds. This was still the third highest total production in the nation's history, and it was the first decline in annual output since successive declines in 1951 and 1952. (See table 1.)

The decline in numbers of milk cows has been gradual, the report points out, except for declines of more than 3% in 1948 and in 1958. This general down-trend reflected in part a drop in demand for milk products and an increase in demand for some other livestock products, according to USDA.

Farms with milk cows have declined even more rapidly than the number of milk cows. Those continuing to produce milk have steadily increased the average size of their herds. These changes in number of dairy cows and dairy farms reflect farmers' adjustments to take advantage of new technology and alternative opportunities as well as changing cost-price relationships, the report said. The larger reduction in numbers of cows in 1948 and 1958 was associated with sharp increases in the carcass value of dairy animals, the report points out.

While the 1958 decline in numbers was one of the sharpest in USDA records, there are indications that the decline during the coming year will not be quite so drastic. Last year high prices for meat animals encouraged heavy culling of dairy herds. This year hog prices are declining and beef cattle prices are not likely to increase as much as they did in 1958. Prices of milk probably will continue above average relative to feed, and it is expected that production per cow will probably increase as much as in other recent years.

TABLE 1. Milk Cows and Milk Production on Farms, U.S., Average 1925-44, Annual 1945-58

Year	Number of milk cows on farms*	Production per milk cow†		Total milk production on farms†	
		Milk	Milkfat	Quantity	Per capita
	thousands	pounds	pounds	mil. lb.	pounds
1925-44 average	23,416	4,447	175	104,130	820
1945	25,033	4,787	190	119,828	856
1946	24,089	4,886	194	117,697	832
1947	23,329	5,007	199	116,814	810
1948	22,336	5,044	200	112,671	768
1949	22,024	5,272	209	116,103	778
1950	21,944	5,314	210	116,602	769
1951	21,505	5,333	210	114,681	743
1952	21,338	5,374	210	114,671	730
1953	21,691	5,542	215	120,221	753
1954	21,581	5,657	219	122,094	752
1955	21,193	5,810	224	123,128	745
1956	20,900	6,004	230	125,474	746
1957**	20,443	6,160	235	125,939	736
1958***	19,784	6,330	240	125,236	719

*Average number on farms during year excluding heifers not yet fresh.
†Excludes milk sucked by calves and milk produced by cows not on farms.
**Revised. ***Preliminary.

While the report points out that the prices for beef and hogs, enterprises which compete with the dairy industry in the central part of the U.S., rose to very high levels compared with milk prices. As a result, the number of milk cows eliminated during the year, 26.6 per 100, was the highest since the 27.2 in 1945, and it compared with 26.4 during 1957.

The number of young stock was smaller at the beginning of 1958 than a year earlier, but compared with the number of mature cows on hand, was the highest since 1953. By Jan. 1, 1959, the number of young stock had increased, both in actual numbers, and relative to the number of mature cows on hand.

Prices

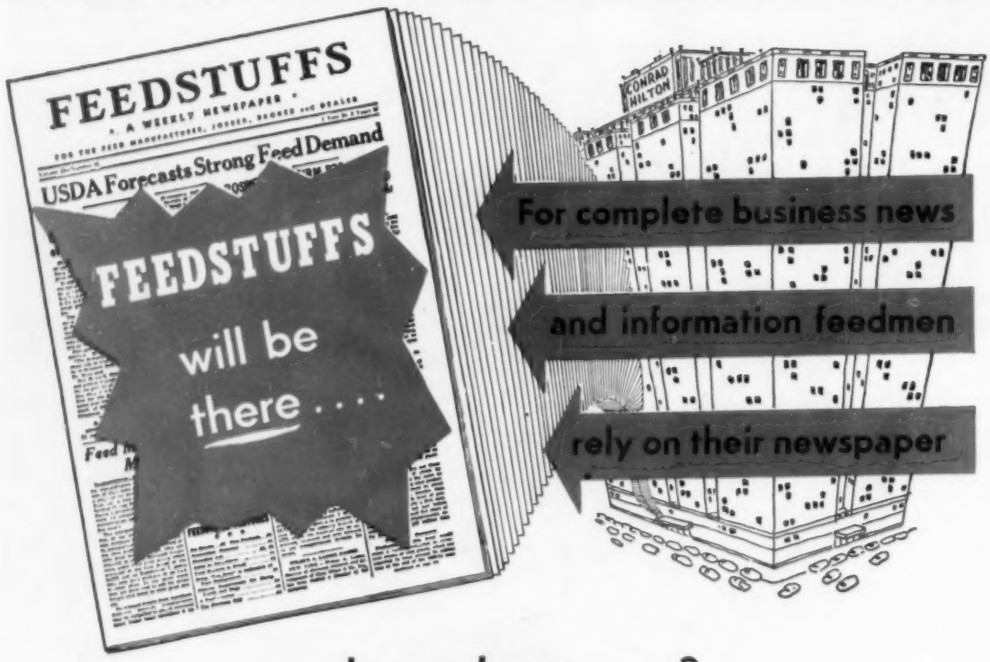
During 1958, prices received by farmers for milk and butterfat averaged a little lower than in 1957. The price of feed also was lower part of the year and the milk-feed price relationship continued well above average.

Beef, Dairy Trends

The report also points out that in the past two decades the number of milk cows on farms and the total cattle population have shown different trends. The number of milk cows and heifers on farms increased from 1939 to a record of 41.3 million head in 1944 and then declined steadily. The 1959 number is about 20% below the level of 1944.

Cattle not kept for milk, meanwhile, increased from 30.4 million in 1939 to 44 million by 1944, then declined to 41 million head in 1948, and then increased around 56% to about

AFMA Convention and National Feed Show



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In short, the May 9 issue of Feedstuffs with bonus distribution and outstanding editorial content zeroed-in on interested readers adds up to a once-in-a-year opportunity for your advertising dollars to do double duty.

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64 million head in 1959. This number was almost double that of 1939.

Thus, cattle kept for milk now account for only about one third of total cattle on farms, compared with over one half of the total two decades ago. The report also points out that sales of cattle and calves from dairy herds are an important supplement to income from sales of milk.

In the past year, all regions of the country showed a decline in number of milk cows. Only five states showed a larger number Jan. 1, 1959, than a year earlier. All regions also showed an increase in the number of young stock compared with the number of mature cows.

The outlook is that the number of milk cows probably will continue to decline slightly in most years for the foreseeable future, according to the USDA, but there appears to be no letup in the increase in milk production per cow. Over the past two decades, the increase in output has been accelerated. In successive five-year periods beginning with 1935-39, production per cow increased 2.4%, 5.7%, 7.4% and 8.9%. For the four years 1955-58, the increase was 11.2%.

This upward trend in production per cow is partly due to larger productive capacity and increased quantities of feed concentrates supplied to dairy animals. Also contributing has been the shift to larger herds, where the cows usually received better care than those in herds kept on a part-time or sideline basis.

C. W. Brown

SALES VICE PRESIDENT—R. A. Harrington, president, Iowa Portable Mill Co., Oelwein, Iowa, has announced the appointment of C. W. Brown as vice president, sales, for the firm. He said the appointment is part of a broad expansion program launched recently by the company. It recently introduced the Iowa Feed-O-Matic mobile feed plant and installed new machinery for mass production of the firm's newest product, the Iowa Seed Mixer-Inoculator. The announcement said Mr. Brown has had many years of sales experience in milling equipment and has had long association with the grain and feed industry. Previous to this appointment he was sales manager for the Melos Manufacturing Co., Des Moines.

Moves General Offices

PORTLAND, ORE. — Centennial Mills, Inc., celebrated the move of its general offices from Seattle to the remodeled Crown Mills offices here with an open house recently. More than 500 persons attended. Centennial, which controls Crown Mills, had its general offices in Seattle for many years, but announced that increasing interests outside of Washington motivated the move to Portland. Twenty families were moved to Portland from Seattle by the company.

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MOO--ORE NEWS IN FEEDSTUFFS

Chopped, Pelleted Alfalfa Tests Run

DAVIS, CAL.—Pellet-feeding lambs and beef cattle brings the best gains over conventionally-prepared feeds when the pellets are straight alfalfa without adding concentrates, according to results of a controlled experiment with 40 lambs and 60 steers at the University of California's Imperial Valley field station, where animal scientists found, as might be expected, that animals fed straight alfalfa pellets ate more and gained more each day than those fed chopped alfalfa.

But when barley was brought into the diet, the picture changed. When the concentrate was added at a 30% level to both the pellets and the chopped hay, the advantage of pellets practically disappeared. And at a 60% concentrate level, steers on pellets consumed less and gained slower, and their carcasses contained less fat than steers fed the same ration in meal form.

The scientists offered several reasons for this less-than-enthusiastic response to pellets with high concentrates. The concentrate pellets might cause an accumulation of lactic acid in the rumen, which would slow the animal's eating and there may be increased gas production, with a resulting loss of appetite.

Investigators on the project were Dr. W. C. Weir, Dr. J. H. Meyer, W. N. Garret, Dr. G. P. Lofgreen, all of the animal husbandry department on the Davis campus, and the late N. R. Ittner, who was on the staff of the field station.

USDA Reports Hatch Of Poults Sired by Parthenogenetic Father

WASHINGTON — The first turkey poults ever sired by a male turkey of known parthenogenetic origin have hatched and are growing normally at the Agricultural Research Center, Beltsville, Md., the U.S. Department of Agriculture reports.

Making up a small flock presently numbering about 37, the young poults are unique because they have no paternal grandfather. Their sire, hatched a year ago, developed parthenogenetically in a non-fertilized egg. The turkey hen that produced the egg from which the parthenogenetic sire was hatched had never been mated.

The poults' sire is one of 20 parthenogenetic male birds hatched in the spring and fall of 1958. Although five survived and grew to maturity, only one thus far has produced viable spermatozoa. This was used to inseminate virgin turkey hens artificially. The poults were hatched from fertile eggs produced by the inseminated hens.

Advanced parthenogenesis in turkey eggs was discovered in 1953 by Dr. Marlow W. Olsen, an Agricultural Research Service poultry husbandryman. The discovery was the first known instance of the occurrence of this phenomenon in higher animals. It has long been known to take place in certain insects and shellfish.

These investigations are a part of a long-range basic study of fertility and hatchability in chickens and turkeys which Dr. Olsen has been conducting for many years. These studies also contribute to a better understanding of chromosomes and cell growth in all forms of life.

In two interesting aspects of his research, Dr. Olsen has shown: (1) that parthenogenesis is at least a partially inherited characteristic; and (2) that the tendency in susceptible strains of turkeys and chickens can be significantly increased by the triggering action of a vaccine used to prevent fowl pox.

Announcement of hatching of the poult flock was delayed, according to Dr. A. W. Brant, head of USDA's Agricultural Research Service poultry investigations at Beltsville, to make certain that the poults were actually the progeny of a parthenogenetic sire and were not themselves the result of parthenogenetic development from infertile eggs.

Two determinations established the fact that the poults are the progeny of a fatherless sire: (1) Embryonic development began in the eggs from which the poults were hatched within 24 hours of onset of incubation, while parthenogenetic development rarely begins in less than three days. (2) Two female poults have been found so far among five that died in the shell or immediately after hatching — true parthenogenesis in birds should produce no females, and none has occurred in the Beltsville experiments.

Carolina Farmers Eye Virginia Egg Market

FARMVILLE, VA. — North Carolina farmers seeking a wider market for their eggs were visitors at the Farmville egg market which opened here recently.

Dr. Clayton P. Libeau, extension marketing specialist at the University of North Carolina, said half of the market's goal of 6,000 cases of eggs weekly might well be supplied by North Carolina farmers.

"This new market is representative of the controlled egg production and marketing programs that well will be seeing more of in the future," Dr. Libeau said.

Texas Groups Set 'Merging' Event

FT. WORTH—Final resolutions are to be passed to legalize the merger of the Texas Feed Manufacturers Assn. with the Texas Grain & Feed Dealers Assn. at a joint convention April 24-25, according to Ben E. Schmitt, secretary-treasurer, Texas Feed Manufacturers Assn.

The program at the Texas Hotel in Ft. Worth will include addresses by W. E. Glennon, president, American Feed Manufacturers Assn.; Al Oliver, executive vice-president, Grain & Feed Dealers National Assn., and other speakers.

MILL BEGINS OPERATION

CLARISSA, MINN.—Operation of a new feed mill constructed here by the Clarissa Creamery is now under way. Construction of the $70,000 plant began about six months ago.

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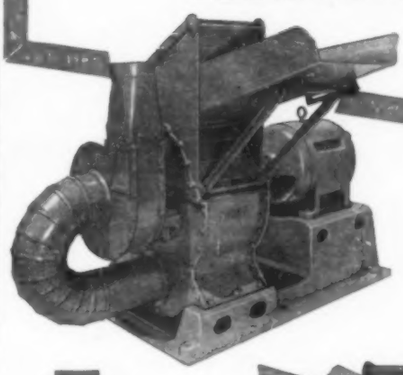

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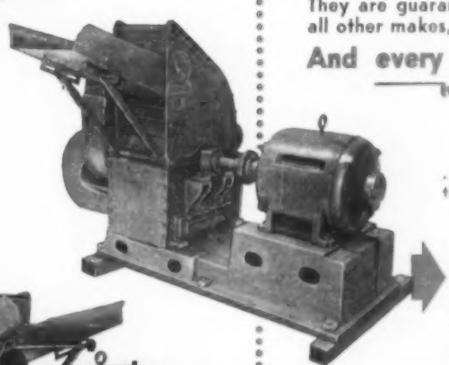

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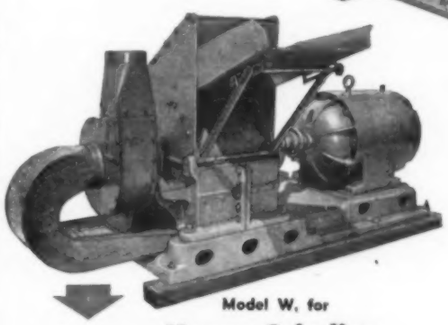
3 sizes—30 to 100 H.P. A top producing mill for general grinding jobs.



Model W, for
Heavy Grinding
3 sizes—50 to 200 H.P. Ruggedly built and perfectly balanced for high volume at low cost.

Sedberry now offers complete mill installation service—every step from plan to production. Mail the coupon for details!

J. B. SEDBERRY, Inc., Dept. F, Franklin, Tenn.
Please send me all details about the Jay Bee mill(s) checked below:
....Model UX ....Model SW ....Model W
....The "Super-matic" Model SM
....Sedberry's "lock and key" mill installation service.
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Company .....
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City ..... Zone ..... State .....

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Branch Operations Give Wider Distribution to New York Firm

Quality feeds, farm supply merchandising and other steps seen as factors in firm's success with eight branches.

By Al P. Nelson
Feedstuffs Special Writer

One way to get wide distribution of feeds and farm supplies in a good agricultural area is to establish a number of retail store and branch mill operations.

This is what one feed organization, the I. L. Richer Co., Inc., with headquarters at New Berlin, N.Y., has done during the past 10 years.

The officers of the company, John Richer, president; I. Richer Mitchell, vice president; Adelbert Button, second vice president, and C. H. Mitchell, secretary-treasurer, are merchandising minded. They have store-mill branches at South Berlin, Richfield Springs, Hubbardsville, West Edmeston, Sherburne, Brisben, and two at Norwich, N.Y.

HEADQUARTERS—Shown here is the exterior of the New Berlin, N.Y., headquarters of The I. L. Richer Co., Inc., feed and farm supply firm with eight branch mill-stores. All branches have grinding-mixing facilities.

In each case, every effort is made by officials of the firm and store managers to get maximum, profitable sales of feeds and other farm supplies. Each branch serves a radius of about 15 miles. Two of the locations also have lumberyards and can supply farmers with building materials.

Quality Feeds

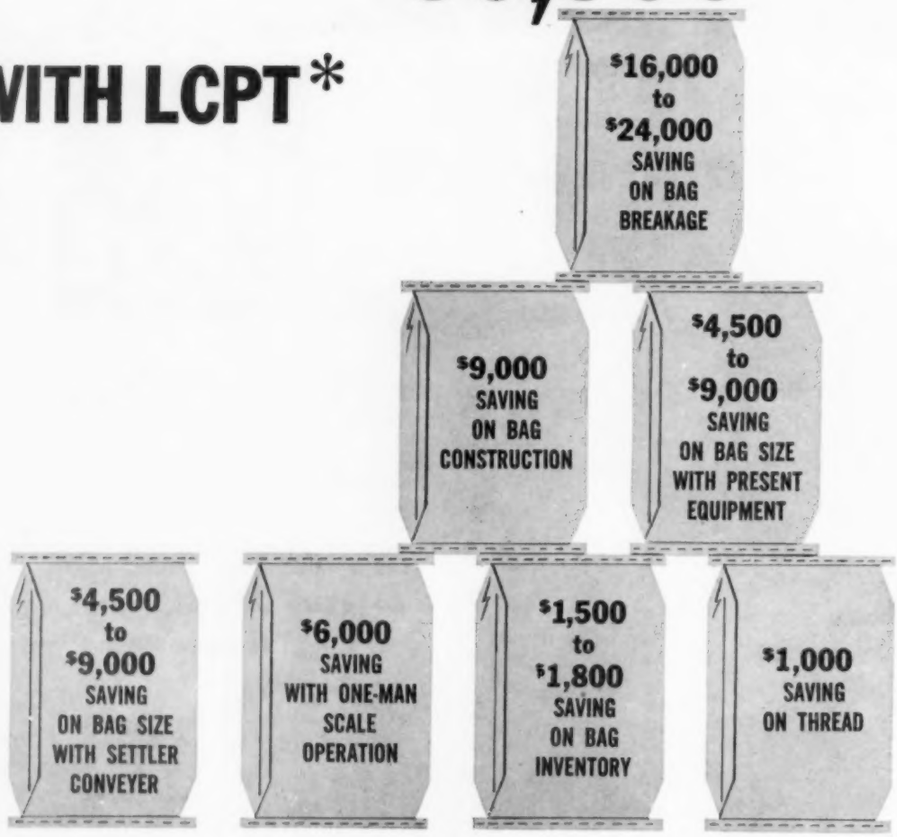
There are several factors which make this operation a success. First, undoubtedly, is that patrons can be supplied with quality feeds. The Richer firm sells mostly broiler and dairy feeds. It is one of a group of independent feed firms which for many years has held a G.L.F. franchise.

In addition, the firm also makes its own line of feeds, Richer Ready Rations. And, since the main mill at New Berlin, as well as all branches, has grinding and mixing machinery, the farmers are well served. They can either buy complete feeds in two well known brands, or they can ask for and receive custom mixing incorporating their own grains in the ration.

The second important factor in the success of the business, officials say, is bulk delivery. The firm has five bulk trucks, purchased through the G.L.F. organization. Four are of the auger type and one is an air-oper-

COMPARISON — Conversations get started at The I. L. Richer Co., Inc., New Berlin, N.Y., over this chart. It lists prices paid for milk in New Berlin monthly from 1938 to date. It opens the way to discussions about improved feeding of dairy animals.

Now! FEED MANUFACTURER CAN SAVE UP TO $59,800 YEARLY WITH LCPT*


$16,000 to $24,000 SAVING ON BAG BREAKAGE
$9,000 SAVING ON BAG CONSTRUCTION
$4,500 to $9,000 SAVING ON BAG SIZE WITH PRESENT EQUIPMENT
$4,500 to $9,000 SAVING ON BAG SIZE WITH SETTLER CONVEYER
$6,000 SAVING WITH ONE-MAN SCALE OPERATION
$1,500 to $1,800 SAVING ON BAG INVENTORY
$1,000 SAVING ON THREAD

*Lower Cost Per Ton Packaging by St. Regis

Here's LCPT in action! By studying the plant operation of a well-known Midwestern firm, St. Regis has dramatically proved its ability to help feed manufacturers package at LOWER COST PER TON.

Surveying 10 key steps in feed packing and shipping, St. Regis experts found 7 areas where amazing production economies were possible. Their recommendations included ways and means of curtailing bag inventory, speedier filling, thriftier sewing, more efficient weighing, uniform bag sizing, economical printing, and tremendous reductions in bag breakage. All this—with the extraordinary saving of more than $1000 a week!

St. Regis is uniquely equipped to apply its new LCPT formula to your feed packing operation. Why not see what St. Regis can do for you? Just write Multiwall Packaging Division, Dept. FS-359, St. Regis Paper Company, 150 East 42nd Street, New York 17, N. Y.

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St.Regis PAPER COMPANY
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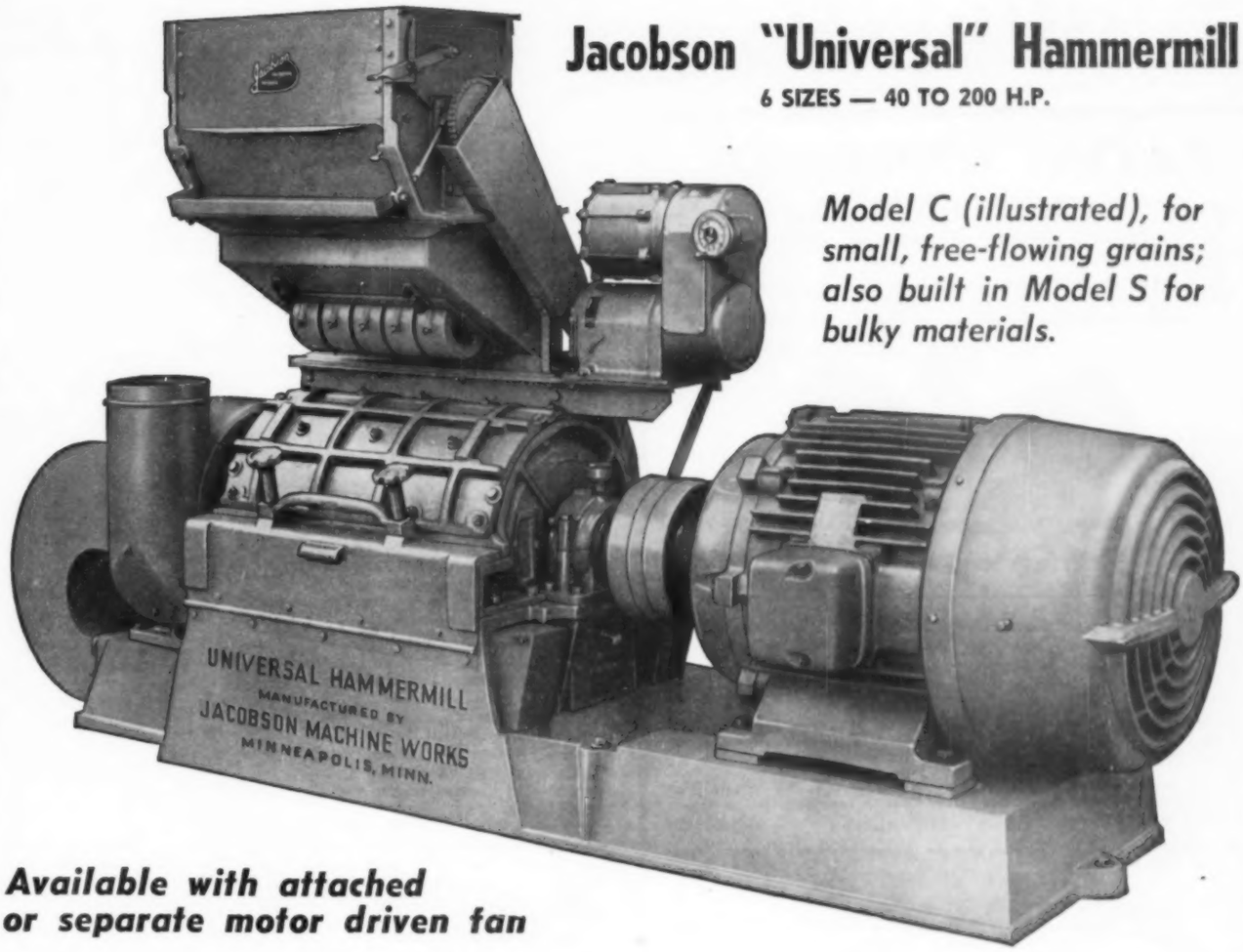
6 SIZES — 40 TO 200 H.P.

Model C (illustrated), for small, free-flowing grains; also built in Model S for bulky materials.



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PATRONS
IF YOU EVER GET ANY FEED YOU THINK IS NOT SATISFACTORY
PLEASE CALL US AT ONCE
YOUR MONEY REFUNDED OR FEED REPLACED
THE I. L. RICHER CO., INC.

GUARANTEE — This wall chart in the I. L. Richer Co., Inc., feed mill at New Berlin, N.Y., invites farmers to speak up if they found their feed unsatisfactory.

ated vehicle. Each will haul eight tons of poultry mash, or six tons of dairy feed.

For the dairy or poultry farmer who wishes to take on bulk service or who wishes a bulk storage bin, or both, the Richer organization is well equipped. Since the firm also has two lumberyards, it offers to build wooden bulk feed storage bins, usually holding 3 to 5 tons. If the farmer wishes he can pay for such bins—labor and materials—on a monthly basis, or he can buy his feed in bulk, but pay the bag price until his bin is paid for.

Increase in Bulk

"About 35% of our feed business is in bulk today," said I. Richer Mitchell, "and this percentage most likely will increase as the farmer realizes the savings he can make in the cost of the feed and in time and labor. We allow a $3 discount per ton on bulk feeds. We charge $2 ton for delivery of feeds. Five of our nine branches are equipped for some storage of bulk feeds of the type that have rapid turnover."

Mr. Mitchell also reports that all but one of the firm's branches have molasses blenders. Thus, dairy farmers can get custom-mixed feeds with the molasses percentages desired.

Farm Supplies

The third important business building factor in this organization perhaps is the development of the farm supply business at each location. Each branch has a sizeable well-stocked farm supply area, where items such as farm hardware, twine, oils and greases, farm electrical supplies, poultry and livestock remedies, canning and freezing supplies, etc., are displayed. Such stock enables the firm to get additional sales from farmers who primarily come in for feed services.

The company will also sell and install water pumps and systems. It sells and installs bulk milk tank cooling systems. In fact, there is hardly a field of farm supplies that the firm does not merchandise. This initiative, of course, does a great deal to increase the total dollar volume of the organization.

Overall management of the company offers farm supply stores supervision and help in display and other merchandising factors. Field men who are available to Richer stores call on farmers regularly in every area and explain advantages of the feeds the firm sells.

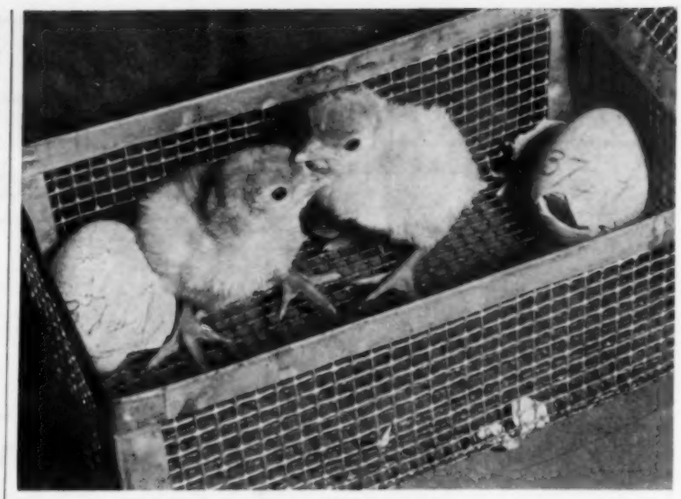
Posted at the New Berlin mill is a chart which many farmers watch carefully, because it lists the milk prices that have been paid at New Berlin over the years. The chart lists monthly milk prices paid back as far as 1938. Farmers like to study this chart to see how present-day prices compare with those of similar months 10 and 20 years ago.

Another thing which interests farmers is a sign in the New Berlin farm supply store. The copy reads, "Patrons, if you ever get any feed that you think is not satisfactory, please call us at once. Your money refunded or feed replaced."

The sign is an indication to farmers that the Richer firm wishes to please its customers and is ready to adjust any complaints.

The feed firm advertises in local newspapers throughout its trade area, and in this manner reaches most of the farmers who use feeds. Some direct mail advertising is used occasionally, as well as some radio copy.

Managers of the various branches arrange time to visit the feed customers in their areas and to talk over feeding problems with them. In this way, the firm is able to handle individual feeding problems to the satisfaction of its customers.



SIRED BY PARTHENOGENETIC FATHER—These turkey poults without a paternal grandfather are growing normally at the U.S. Department of Agriculture research center at Beltsville, Md. Their father didn't have a father, for he developed parthenogenetically and hatched from a non-fertilized egg. Advanced parthenogenesis in turkey eggs was discovered as part of a basic study of fertility and hatchability in chickens and turkeys by Dr. Marlow W. Olsen, poultry husbandryman with the Agricultural Research Service. The studies also contribute to a better understanding of chromosomes and cell growth in all forms of life. (Also see story on page 111.)

PATENT APPROVED!

DIMPLE-FACED PELLET MILL ROLL

Patent #2875709 — March 3rd, 1959

For More Production at less cost to you

Dimple-Faced pellet mill roll assembly with Double-seal (Snap-in seals and Safety seal) — the only roller made with two seals on each end of shaft.

The Dimple-Faced roller keeps the outside rows of holes pelleting for the life of the pellet mill die. The roll also prevents squash out sideways, runs with less pressure against die and with less adjustment.

All wear parts pictured above are hardened and ground. This increases the wear life of the parts approximately four times, a savings to you of three-fourths of your parts' cost.

The Dimple-Faced roll will increase your die production, thereby decrease your die and roller cost.

Die and Rolls

MANUFACTURERS OF PELLET MILL PARTS. WE PAY THE FREIGHT ON PELLET MILL DIES TO YOUR PLANT.

After 4½ years of complete tooling, we are offering replacement dies for following pellet mills: California, Sprout Waldron, Universal, and Anglo-American.

We are the only die shop offering this service for all makes of Mills.

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MILL MANUFACTURING CO.
207 East Broadway - Fort Worth, Texas

WRITE TODAY FOR PRICES AND CATALOGUE

TYPE OF PELLET MILL USED_____
FIRM NAME_____
ADDRESS_____
CITY_____ STATE_____
SIGNED_____

FEED MAN DIES

WARSAW, IND.—Noah W. Tinkey, 56, manager of the Warsaw Grain & Milling Co., died recently, apparently as a result of the rupture of a plastic aorta which had been substituted for a defective aorta in heart surgery about five years earlier.

Study Compares Pellets, Wafers

DAVIS, CAL.—University of California animal nutritionists have reported that pellets of finely-ground alfalfa produce faster gains in feeder lambs than wafers of coarsely-ground alfalfa.

Results of recent trials have led Davis campus researchers to suggest that "fine grinding is probably the major factor causing the increased feed consumption of pelleted hay and that the pelleting process serves to put a fine, dusty feed in a more palatable form."

Finely-ground hay and coarsely-chopped hay were fed four different ways: Ground or chopped; pelleted; ground or chopped mixed with water, and reground pellets mixed with water. Water was added to determine whether it would replace the pelleting process in making the dusty feed more palatable.

Lambs did best with pelleted finely-ground hay, gaining 0.38 lb. day on 3.59 lb. feed.

Other methods of feeding finely-ground alfalfa produced these daily gains: Reground pellets plus water, 0.35 lb.; ground hay plus water, 0.31 lb., and ground hay 0.20 lb..

The best results with coarsely-chopped alfalfa resulted when wafers, either plain or reground and mixed with water, were fed. The animals gained 0.30 lb. day on these rations. But when the alfalfa was fed chopped, lambs gained only 0.24 lb. day, while the addition of water to the chopped alfalfa lowered the gain to 0.19 lb. day, which was due, perhaps, to souring of hay.

Of the lambs fed finely-ground pellets, four graded choice and two graded good. Five of the lambs fed coarsely-ground pellets graded good and one graded utility.

Salt Company Names New Service Engineer

ST. CLAIR, MICH. — Henry I. Keves has been promoted to the newly-created post of technical service engineer for Diamond Crystal Salt Co., St. Clair, Mich.

In his new post, Mr. Keves, formerly chief engineer of the company, joins the technical sales department. He will work directly with customers in the dairy, feed and grain, canning, food processing, baking, meat and water softening industries on engineering problems concerned with the use of salt.

Claims *can't* control COCCIDIOSIS... But Trithiadol® *can!*

FACT **TRITHIADOL effectively controls ALL commercially important species of coccidia. Proved in over 18 months of actual commercial use...in ALL major poultry areas...in EVERY growing season.**

FACT **TRITHIADOL gives top feed conversion...up to $40 extra per 1000 birds in impartial comparative tests.**

FACT **TRITHIADOL, and ONLY TRITHIADOL, has all 9 of these major advantages.**

1. Effectively controls all economically important species of coccidia.
2. Completely safe for poultry; harmless to other warm blooded animals.
3. Superior feed conversion and weight gain.
4. Permits immunity to develop early.
5. Displays no adverse effects on egg production, shell color or yolk color.
6. Comparatively no effect on hatchability or fertility.
7. Is compatible with all commonly used feed ingredients.
8. Stable, free flowing, easily blended with feeds.
9. Effective in reducing tapeworm and large roundworm burden in chickens–a substantial aid in any worm control program.

Get ALL the facts on TRITHIADOL... SEND COUPON NOW!

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Have you heard about COCCIVAC*? Check in coupon/or SEE YOUR LOCAL STERWIN REPRESENTATIVE.

*CocciVac is the Reg. trademark of Dorn and Mitchell Laboratories, Inc., Subsidiary of Sterling Drug Inc.

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☐ TRITHIADOL ☐ COCCIVAC

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COMPANY_____

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MFR. ☐ DEALER ☐

☆ Classified Ads ☆

Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. In figuring cost of your classified ad . . . each word, abbreviation, telephone exchange and number, set of initials, or group of figures counts as a word. To the number of words in your want ad itself add six (6) words for your name and address or name and address of your firm. This applies for both direct-reply ads and for blind ads containing a box number. If an ad is keyed, care of Feedstuffs, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $12.00 per column inch. No discount on ads ordered for more than one insertion.

All Want Ads cash with order.

MACHINERY FOR SALE

FEED MIXER, 1-TON CAPACITY, GUARANTEED first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

DAFFIN MOBILE FEED UNIT, 1954—THIS unit is mounted on Ford F 700 chassis, rebuilt Buda Diesel motor, new paint job on truck and equipment. This unit is in first class condition. Priced right. J. H. Crossdale, Ringoes, N. J.

FOR SALE—ONE AIR UNLOADING NEW Leader Bulkmaster bulk feed single axle trailer, 12 ton capacity, Wisconsin engine, excellent condition, with or without late model International tractor. Alabama Flour Mills, Decatur, Ala.

LIKE NEW—2 UX JAY BEE, W/20 H.P. direct connected motor, complete with magnet, screens, dust collector, $500. Used 10-inch Prater, $150. Miscellaneous motors—all 3 ph. Urbana Feed & Seed Supply, 216 North Broadway, Urbana, Ill.

USED ROLLS FOR SALE — 2-PR. 9x30 full size for 2 high Allis stand. Six-pr. 9x24 and 6-pr. 9x30 Nordyke old style. All of these are good and some are full size rolls. Capital Corrugating Co., 1729 Swift Ave., North Kansas City 16, Mo.

FOR SALE—ENCLOSED MOTORS; RICHardson Scales; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machine; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

FOR SALE—ONE 38 DUCT, DOUBLE OR dual Verti-flo feed and grain distributor. Can be separated to make two distributors, if needed. Used little. As good as new. Jerome Turkey Farms, Inc., 506 West Division Ave., Barron, Wis.; Phone: Lenox 7-3133.

FOR SALE—WENGER 1000 HI MOLASSES pellet mill complete with cooler, pump, mixer, feeder, revolving duster, fan and motors; 36" and 42" filter presses; filter cloth washing machine; Buffalo cookers, DeLaval centrifuges, Zenith and Davenport dewatering presses; York Ammonia compressors; Vogt oil chiller; scale tank complete with Toledo scale; Richardson scales; meal coolers; Roots-Connersville blower; Davis vertical mixer; horizontal mixers; O.K. bagging scale; Prater pulverizers; bucket elevator legs; pumps; motors. Contact Lee Atherton, Archer-Daniels-Midland Co., Minneapolis, Minn.

MACHINERY FOR SALE

PNEUMATIC "AIR-CONVEYOR" SYStems. Any size, positive blowers, blo-thru feeders, also used Sutorbilts, 50% off. Nolder Co., Box 14, Corona Del Mar, Cal.

MACHINERY WANTED

ALL KINDS OF GOOD USED GRAIN processing machinery. E. H. Beer & Co., Inc., Baltimore 2, Md.

WANTED—100 H.P., 3,600 R.P.M. USED motor. Also compensator. Reply Ad No. 4668, Feedstuffs, Minneapolis 40, Minn.

WANTED—USED HORIZONTAL MIXER, 100-500 pound size, with motor. Art Couch, Bayard, Neb.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

USED HAMMERMILLS, MIXERS, PELLET and roller mills—any excess equipment. Highest cash prices paid. Free listing for any old equipment with our buyers' exchange. Will sell on brokerage basis or cash. Write James Equipment Co., Box 460, Fort Dodge, Iowa.

SITUATIONS WANTED

VETERINARIAN—B.S., D.V.M., M.S., Ph.D. Experience: Four years' commercial agricultural and veterinary research, 6 years' general practice. Desires position in feed or pharmaceutical company. Address Ad No. 4674, Feedstuffs, Minneapolis 40, Minn.

WE NEED CAPITAL OR OPPORTUNITY that will lead to ownership of agricultural supply business. Two university graduates. Age 34, successful in sales, management of 15,000 ton feed plant. Invest in our future. Address Ad No. 4658, Feedstuffs, Minneapolis 40, Minn.

MAN WITH BROAD SALES, ALL PHASES milling equipment, vitamin supplements and formulation. Twenty years' selling in Southwest, broad acquaintance. Prefer Texas, fringing states. Family man, mature, sound judgment, A-1 references, no objection to D & B report. Address Ad No. 4682, Feedstuffs, Minneapolis 40, Minn.

SITUATIONS WANTED

GENERAL SALES MANAGER AND NUtritionist desires change. Middle 30's and a graduate of Iowa State College, plus excellent record. Address Ad No. 4672, Feedstuffs, Minneapolis 40, Minn.

HELP WANTED

ESTABLISHED FEED MANUFACTURER wants feed nutritionist with knowledge of formulation and related fields. No age limitations. Address Ad No. 4637, Feedstuffs, Minneapolis 40, Minn.

LEADING MINERAL MANUFACTURER desires general manager. Must have knowledge of mineral and feed business and executive and business ability. State experience, age and salary desired. Our people know about this ad. Address Ad No. 4645, Feedstuffs, Minneapolis 40, Minn.

EXPERIENCED FEED SALESMAN WANTed for proven area central Illinois. We have a man retiring and need a replacement. The territory is well established and company well known. Earnings are excellent. Address Ad No. 4451, Feedstuffs, Minneapolis 40, Minn.

WE HAVE A GOOD OPENING FOR A man that is endowed with sales ability, and that of selling a full line of livestock feeds, including minerals. A well-known product of the highest quality, which offers a golden opportunity and advancement for the right man. Address Ad No. 4681, Feedstuffs, Minneapolis 40, Minn.

EXPERIENCED FEED SALESMAN WANTed — Old established feed manufacturer situated in the Northeast is interested in securing an experienced feed salesman to cover a portion of New England. Good opportunity for a man willing to work. Address Ad No. 4670, Feedstuffs, Minneapolis 40, Minn.

FEED INGREDIENT MERCHANDISER — Here is an opportunity for a man experienced in merchandising and procurement of all types of feed ingredients. Knowledge of markets, traffic, sources of supply, and office procedures necessary. Prefer a man who knows the Omaha, Sioux City and Minneapolis markets. Submit complete resume in confidence, indicating salary requirements. Address Ad No. 4660, Feedstuffs, Minneapolis 40, Minn.

LIVESTOCK AND POULTRY FEED SALESman—Good experienced man wanted for well established territories in west Texas and eastern New Mexico, company well known. Earnings excellent, salary plus commission, plus expense, plus bonus, plus liberal benefits. Answer with complete record of experience and particulars with first letter. Replies will be confidential. Address Ad No. 4666, Feedstuffs, Minneapolis 40, Minn.

BUSINESS OPPORTUNITIES

FLORIDA—GARDEN, SEED AND FEED supplies. Sell business, fixtures, equipment, $15,000. Good lease, parking, large warehouse. Owner moving North. P. O. Box 781, Holly Hill, Fla.

FOR SALE—FEED MILL AND HATCHery, completely equipped and operating, located in southern California, in area ripe for expansion. Growing egg production, broiler and turkey raising area. Address Ad No. 4650, Feedstuffs, Minneapolis 40, Minn.

GRAIN ELEVATOR, FEED STORE, CUStom grinding and mixing setup. Profitable operation averaging 75 tons of feed per month in good livestock area of central Iowa. Good reason for selling at net depreciated book value. Address Ad No. 4647, Feedstuffs, Board of Trade Bldg., 141 West Jackson Blvd., Chicago 4, Ill.

ELEVATOR AND FEED MILL—AVERAGE yearly gross, $138,000, net profit about $15,000. Large capacity, excellent agricultural area. Most efficient operation. Buildings and equipment in best of condition. Auditors' statement available. Price $80,000, w/$25,000 down, terms to suit. Write or call Mr. Sund, TA 4-1603 or at Calhoun Realty, 3040 Hennepin Ave., Minneapolis 8, Minn.; TA 5-2466.

BUSINESS OPPORTUNITIES

FOR SALE—RETAIL FEED BUSINESS— Reason for sale, death of owner. Contact Mrs. F. S. Nash, Canton, S. D.

NEW and USED
Self-Unloading Bulk Feed Bodies

1 used 2-ton combination bag and bulk air-unloading body with tarp and bows—mounted on 1952 Dodge 1-ton, 4-wheel drive power wagon—outfit looks like new $1295.00

1 new 7' x 12' grain box comb. bag and bulk with new 8-ton hydraulic hoist, new power take-off, new Pak-Master auger unloading att. mounted on 1947 Chev. truck with new paint, and A-1 mechanically $2650.00

New 5½-ton Pak-Master hopper type special built, low clearance model, clears 10' door, 19' discharge auger—painted white — immediate delivery.

Other Makes and Models Available.

CALL OR WRITE
Snyder-Meylor Co.
Distributors
PAK-MASTER FEED BODIES
"NEW LEADER" SPREADERS
Sheldon, Iowa Phone 58

FEED EXECUTIVE

Desires relocation for personal reasons. Resume on request. Address ad No. 4667, Feedstuffs, Minneapolis 40, Minn.

THIS MAN IS A CAPABLE EXECUTIVE WITH EMPHASIS ON SALES AND PROFITS. QUALITIES HE CAN BRING TO YOUR ORGANIZATION ARE:

1. DESIRE TO SUCCEED.
2. OBJECTIVE THINKING.
3. SOUND PLANNING.
4. FORCEFUL SPEAKER.
5. ENTHUSIACTION.

HE HAS DEMONSTRATED HIS ABILITY TO WORK WITH, DEVELOP AND MOTIVATE MEN. SET UP MERCHANDISING AND SALES PROMOTION THAT WORK. PLAN INTERESTING SALES MEATINGS THAT TEACH. HAS THE KNOW HOW TO WORK WITH EXECUTIVE GROUPS.

WRITE TODAY.
ATTENTION: C. A. STARK, 642 BUILDERS EXCHANGE, MINNEAPOLIS, MINNESOTA

Use Feedstuffs WANT ADS for RESULTS

E. H. BEER & CO., INC.
Machinery Division—Ibsen Ave. & Newkirk St., Baltimore, Md.—Dickens 2-4606
Used Machinery in Stock Available for Your Inspection

5 H.P. Link-Belt Car Mover
Oats Crimpers, 300, 600, 900 bu. per hour
Receiving separators, 300, 400, 500, 600 bu. per hour
Union Special Sewing Machine—Model 14500
9"x24", 9"x30" Sprout-Waldron, Double Roller Mills, Style C feeders, Style B Drive
9", 10", 12", 16", 18" Screw Conveyors
5" Steel Spouting, 16-gauge, 20' lengths
Fuller Airveyor, 1,500 bu. per hour.

Also representatives for Triumph Corn Shellers and Universal Bucket Elevators.
New and Used Milling and Grain Processing Machinery.

FOR SALE

FEED MILL. Complete facilities for Feed Manufacturing. Located in southern California area. Large concentration, Dairy and Poultry Producers. Will SELL OR LEASE. Price $137,000 terms. Lease terms $1,400 per month with option to buy at end of seven years. Rental to apply on purchase price if option is exercised. Write owner.

L. McPHAIL
1275 Hillcrest Drive Pomona, Cal.

Restricted Versus Full Feeding Pullets Studied

STATE COLLEGE, MISS. — Restricted feeding of White Leghorn pullets during the growing period proved better than full feeding in one-year tests reported recently at the Mississippi experiment station.

Results were reported by Dr. Charles H. Thomas of Mississippi State University, and R. C. Albritton of the northeast Mississippi branch station.

Groups on restricted feed had a higher mortality rate prior to housing, but after reaching the laying house, their mortality rate was less than for birds full-fed during the growing period. Lower feed cost and better livability in the laying house more than offset early losses.

Restricted feeding delayed egg production. Full-fed birds reached 5% egg production when about 165 days old. Pullets restricted to 75% feed during their growing period reached this stage of production in 177 days. Those on 50% feed required 194-200 days.

In a 365-day laying period, more eggs were obtained from the restricted-fed birds than from those that were full fed, in pounds of limited feed.

Highest labor income was realized from birds restricted to 75% of a full ration to 26 weeks of age. The research men warn that this is a progress report based on one-year's results, and that the project is being continued.

In these tests restricted feeding was practiced only during the growing period. One group of pullets had all the feed they would eat, another got 75% of the amount the first group consumed and a third group got 50%. Regular, full rations were provided for all after they entered laying houses.

Poultry By-Products Buying Guides Planned

BILOXI, MISS. — Formulation of purchasing guides on poultry by-products will be the major business confronting members of the Poultry By-Products Assn., Inc., at their annual meeting here April 10.

The meeting will be held beginning at 9:30 a.m. at the Buena Vista Hotel. General business and the purchasing guide discussions will be covered during the morning session of the one-day meeting, which is to be followed April 11 by a meeting of the Southeastern Renderers Assn.

Two speakers and an open forum discussion are scheduled for the afternoon. Dr. Henry L. Fuller, University of Georgia poultry husbandman, will speak on present and future uses of poultry by-products, and J. E. MacMillan, MacMillan Laboratories, Atlanta, Ga., will talk on how the chemist can help the renderer. Each address will be followed by a question and answer period.

Discussed during the open forum will be three subjects: "Handling Raw Materials," "Problems Created by the New Inspection Law" and "Competition for Our Raw Materials."

Also scheduled for the afternoon is a meeting of the directors of the Southeastern Renderers Assn. The entire day, April 11, will be devoted to the renderers' meetings.

PARTNER FOR OREGON STORE

ST. HELENS, ORE.—E. H. Clahr, owner, Heinie's Cash Feed Store, St. Helens, has announced that Ronald McGeorge has joined his firm as a partner. Mr. McGeorge has spent all of his business life in the farm, garden and building materials business.

MARKETING CLINIC—Participants in Purdue University's 1959 Marketing Clinic, shown registering for the day-long event, are (left to right): Ray B. Wilson, Purdue agricultural economist, who was in charge of the program; Henry Mangus, Thorntown, Ind.; Dr. Harry C. Trelogan, director of marketing research, U.S. Department of Agriculture, and W. R. Cummins, general manager, Producers Marketing Assn., Indianapolis. Registering the visitors is Miss Ann Gretencord, Purdue agricultural economics department secretary.

Grain Bank Among Topics at Purdue Marketing Clinic

LAFAYETTE, IND. — How the grain bank works in Indiana and solutions to problems of field shelling corn were among the topics discussed during the recent Marketing Clinic at Purdue University.

Also on the agenda were talks concerning forecasts of farm production changes, market stimulation, efficiency's role in offsetting rising marketing costs and other agricultural marketing subjects.

GRAIN BANK—Dr. W. S. Farris, Purdue agricultural economist, mentioned a recent survey made by the university which showed that approximately half of the grain and feed handlers in Indiana have some type of grain bank arrangement. The grain bank seems to be the most popular with hog feeders, he said.

Dr. Farris noted that limited storage space is a problem to dealers using the grain bank. "It appears," he said, "that dealers make an effort to restrict the rate at which farmers bring corn to them for storage, probably because of limited storage facilities, and at the same time generally feel their obligation to keep enough corn on hand to take care of current obligations under their grain bank agreements."

The most popular method of crediting the feeder with grain deposited in the grain bank, according to the Purdue study, is that of giving him credit in terms of pounds of corn.

Dr. Farris said the grain bank understanding between the feeder and the dealer, whether written or unwritten, usually involves: (1) The rate for converting ear corn to shelled corn, (2) the moisture adjustment schedule, (3) adjustment for shrink and other quality adjustments, (4) the policy on overdrawing the corn account and (5) the charges made for services in connection with the grain bank.

PRODUCTION ENVIRONMENT—"The range in earnings among farmers and among marketing firms is likely to widen further," commented Dr. Lowell S. Hardin, head, Purdue agricultural economics department. "Those who tackle the tough management jobs with success will receive good returns. . . . Status quo, no change, complete equality, guaranteed margins offer little chance to prove one's capacity. That's why, to the agriculturist, the 'Scientific Sixties' promise to be the most interesting decade yet."

He said production environment changes add up to a "push" inside farming and a "pull" from outside. Describing this "push," Dr. Hardin observed that technology and labor productivity are increasing more rapidly than population is expanding. He

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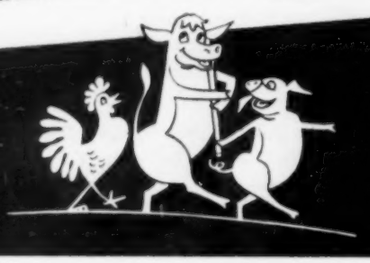

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EDITORIAL—Time-ly Story

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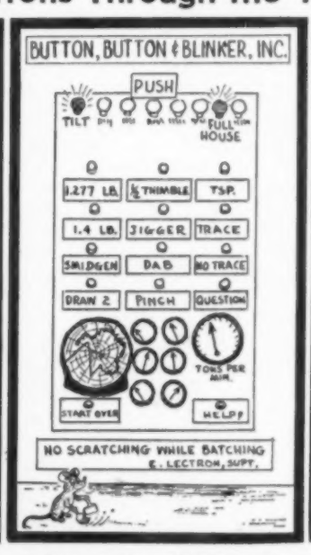

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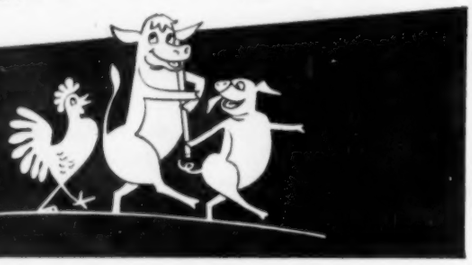

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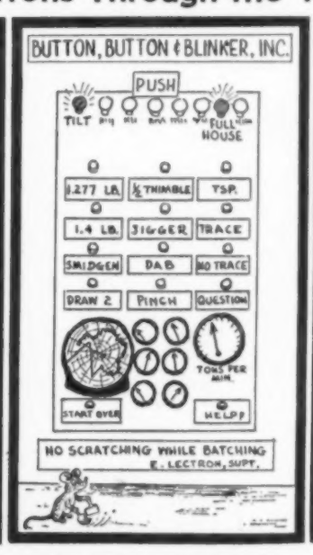

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The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Boston: Demand fair; supply adequate; 600 D, 1,500 A 17½¢ lb.; 300 D, 2,250 A 18¢; 300 D, 1,500 A 16½¢; 300 D, 750 A 14¾¢; 400 D, 3,000 A 20¢; 300 D, 3,000 A 19½¢; 75 D, 750 A 14½¢.

Minneapolis: 10,000 A 35¢ lb.; 300 D, 2,250 A 21½¢ lb.; 300 D, 1,500 A 20½¢ lb.; 300 D, 75 A 18¾¢ lb.

Chicago: Demand fair; supply adequate; straight A feeding oil, with 10,000 units vitamin A per gram 7@7½¢ a million units of vitamin A, l.c.l., packed in 55-gal. drums, f.o.b. Chicago, drums included.

New York: Demand fair; trend steady; supply limited; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13⅝@15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢; f.o.b. Massachusetts, New York or Pennsylvania.

Denver: Demand fair; trend steady; supply ample; 300 D, 2,250 A 22¢.

ALFALFA MEAL

New Orleans: Demand good; trend unchanged; supply light; vitamin A, 17% $81@83; pellets $77@79.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $78.50.

Omaha: Demand good; trend steady; supply tight; 17% dehydrated, 100,000 A units, bulk pellets $60; sacked meal $65, Omaha basis.

Philadelphia: Demand slow; supply fair; 17% $80.

Los Angeles: Demand good; trend steady; supply moderate; dehydrated meal, 17% protein, 100,000 A $51; dehydrated pellet meal, 17% protein, 100,000 A $53; suncured meal, 15% protein $42@43; suncured crumbles, 15% protein $44@45.

Portland: Demand slow; supply ample; trend unchanged; suncured, 15% $41; dehydrated $68.50.

St. Louis: Demand slow; trend steady; supply limited; dehydrated, 17%, 100,000 A $70; suncured, 13% fine $39.

Ft. Worth: Demand fair on dehydrated, slow on suncured; supply light on dehydrated, sufficient on suncured; dehydrated, 20% protein, 150,000 A $67, truck; 17% protein, 100,000 A $64, truck; rail $66; suncured 13%, No. 1 ¼-in. grind $39@40, truck or rail.

Boston: Demand fair; supply adequate; dehydrated, 17% $80; suncured 13% $50.

Kansas City: Demand very good, although shipments are mainly against contracts since other supplies are scarce; trend steady to stronger; dehydrated alfalfa meal with 17% protein and 100,000 units vitamin A guaranteed on arrival; reground pellets $65 sacked, greased meal $67 sacked, pellets $60 bulk; 18% protein, 125,000 units A meal $69 sacked; non-guaranteed A meal of 15% protein $53 sacked, $48 bulk, pellets; suncured alfalfa meal demand is slow with supplies adequate, No. 1 fine ground $35, No. 1 ¼-in. $32.50@33, No. 2 ¼-in. $29, sacked.

Buffalo: Demand and supply fair; trend steady to higher; $80.50, Boston.

Memphis: Demand fair; trend lower; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $72.

Seattle: Demand fair; trend steady; supply good; 15% protein suncured $44, truck loads; 136,000 A unit dehydrated $69, truck loads.

Minneapolis: Tight supplies; fairly good demand; steady trend; 17% alfalfa meal with 100,000 units A, reground pellets $70; oiled reground $72; bulk $3 less.

Chicago: Demand and supply fair; 17% dehydrated, with 100,000 units vitamin A guaranteed, no offerings, quote $56.50@57.50; 13% No. 1 fine ground $51@52.

Denver: Demand fair; trend steady; supply ample; dehydrated $56.

ANIMAL FATS (STABILIZED)

St. Paul: Light trading on limited supplies; market firm at 7¼¢ lb., f.o.b. producer's plant, for bleachable fancy tallow.

New Orleans: Demand fair; trend steady; supply adequate; 6½@7¢ lb., tank cars.

Louisville: Demand and supply good; trend firm; bleachable fancy 7¼¢ lb.; white tallow 7¼¢ lb.; yellow grease 6½¢ lb.

San Francisco: Demand fair; supply ample; bleachable fancy 7⅝¢ lb.; yellow grease 7⅜¢ lb.

Ft. Worth: Demand good; supply rather tight; prime tallow, tank cars 7⅛¢ lb.; drums 8⅝¢ lb., f.o.b. north Texas packing plants with returnable drums.

Kansas City: Demand improved somewhat; trend steady; supply adequate; prime tallow 7@7¼¢ lb., tank car.

Boston: Demand fair; supply good; tallow 7⅛¢ lb.; yellow grease 6⅞¢ lb.

Chicago: Demand good; supply short; bleachable fancy tallow, tank, truck or carlots 7¼¢ lb.; yellow grease 6¾@7¢ lb.

Atlanta: Demand good; trend steady; supply about ample; 7¼@7⅝¢ lb.

BARLEY FEED

Ogden: Supply average; rolled $50@55; whole barley $42@47.

New Orleans: Demand slow; trend unchanged; supply adequate; $64.50@65.50.

Philadelphia: Demand slow; supply fair; pulverized $51.50.

Los Angeles: Demand slow; trend unchanged; supply ample; standard rolled $3.30 cwt.; standard ground $3.30 cwt.

San Francisco: Demand fair; supply ample; rolled $65.60; ground $64.50.

Portland: Demand slow; supply ample; trend unchanged; rolled $63; ground $61.

Milwaukee: Demand fair; supply good; needles 96¢@$1.08 cwt.; ground screenings $25.

Boston: Demand slow; supply good; $43.

Seattle: Demand fair; trend steady; supply good; $50.50, bulk, truck lots.

Chicago: Demand quiet; supply adequate; $38.

Baltimore: Demand quiet; supply adequate; $48.50.

BENTONITE (SODIUM)

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50; 200 mesh fine $31.

Chicago: Demand steady; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50; f.o.b. Belle Fourche, S.D., minimum 30-ton carlot: 80 granular $13.50 net; 200 mesh, fine $13.25 net.

Denver: Demand fair; trend good; supply ample; $21.

BLOOD FLOUR

Louisville: Demand fair; trend firm; supply good; $120@125.

BLOOD MEAL

Louisville: Demand fair; trend steady; supply good; $120@125.

New Orleans: Demand slow; trend unchanged; supply ample; $120@125.

Los Angeles: Demand fair; trend unchanged; supply tight; $7.50 a unit of ammonia.

San Francisco: Demand good; supply tight; $8 a unit of ammonia.

Portland: Demand good; supply ample; trend unchanged; $130.

Ogden: Supply average; $110 in 100-lb. bags, f.o.b. Ogden.

Chicago: Demand fair; supply light; $140, guaranteed 80% protein.

BONE MEAL (STEAMED)

New Orleans: Demand slow; supply light; trend steady; $95@105.

Cincinnati: Demand fair; trend steady; supply short; $115, Cincinnati.

Louisville: Demand slow; trend steady; supply normal; $95@105.

Los Angeles: Demand good; supply limited; trend steady; imported $73.50 in 20-ton lots.

San Francisco: Demand good; supply ample; $75.

Portland: Demand good; supply ample; trend unchanged; $100.

Ft. Worth: Demand good; supply light; $90, local manufacture.

Boston: Demand and supply steady; $90.

Denver: Demand good; trend strong; no supply (on strike); $80, nominal, Bay Shore, Cal.

Chicago: Demand good; supply light; in 50-lb. bags $105.

Buffalo: Demand good; trend steady; supply limited; $100.

Seattle: Demand good; trend firm; supply limited; $87.50, ex-dock, truck lots.

BREWERS DRIED GRAINS

New Orleans: Demand fair; trend steady; supply ample; $56.50@57.

Cincinnati: Demand poor; trend steady; supply adequate; $62.

Louisville: Demand fair; trend weak; supply ample; $52.

Philadelphia: Demand and supply fair; $61.

Los Angeles: Demand better; supply limited; trend steady; $49.50 bulk, $53.50 sacked.

San Francisco: Demand fair; supply ample; $54.

St. Louis: Demand fair; trend steady; supply limited; $50.

Milwaukee: Demand good; supply fair; $53.

Ft. Worth: Demand slow; supply moderate; 26% protein $56.80.

Boston: Demand fair; supply good; 22% $55.50; 26% $60.

Buffalo: Demand and supply fair; trend steady; $54.50, bulk, Boston.

Chicago: Demand fair; supply adequate; 26% $51@52.

BREWERS DRIED YEAST

Louisville: Demand slow; trend steady; supply ample; 10@10½¢ lb.

Omaha: 10½¢ lb.

Los Angeles: Demand good; trend unchanged; supply light; 10¢ lb. in 5-ton lots; 11¢ lb. in 1-ton lots; 12¢ lb. in less than 1-ton lots.

San Francisco: Demand fair; supply good; 10¢ lb.

Portland: Demand good; supply ample; trend unchanged; 8¾¢ lb.

Boston: Demand and supply steady; 11¢ lb.

Buffalo: Demand good; trend firmer; supply limited; $10.85 cwt.

Denver: Demand light; trend steady; supply ample; 9¢ lb., f.o.b. Golden, Colo.

Chicago: Demand good and supplies limited; 10@11½¢ lb. in carlots; 10¾@12½¢ lb., l.c.l.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb., ton lots 11½¢ lb.

Milwaukee: Demand good; supply limited; 10½@11½¢ lb. in carlots; 10¾@12½¢ lb., l.c.l.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

St. Louis: Demand good; supply limited; 10¢ lb. in carlots; 11¢ lb. in ton lots; 12¢ lb. in less than ton lots.

BUTTERMILK-CONDENSED

Ogden: Supply average; $4.40, 100-lb. drum.

New Orleans: Demand slow; supply normal; trend steady; $4.25@4.30 cwt.

Louisville: Demand dull; trend steady; supply light; $4.25 cwt.

Wichita: Demand good; supply insufficient; $2.90 cwt. in barrels.

Philadelphia: Demand slow; supply light; $4.25 cwt.

Los Angeles: Demand fair; trend steady; supply ample; 5½¢ lb. in 100-lb. lots; 4½¢ lb. in 500-lb. lots.

San Francisco: Demand fair; supply good; $5 cwt.

Boston: Demand slow; supply light; 3½¢ lb.

Chicago: Demand good; supply adequate; $3.25@3.50 cwt. in carlots.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight)

New York: Crystals $15.28, flour $10.28.
Buffalo: Crystals $16.11, flour $11.11.
Toledo: Crystals $17.96, flour $12.96.
Boston: Crystals $16.53, flour $11.63.
Limecrest, N.J.: Crystals $10.50, flour $5.50.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $8@9 cwt.

Los Angeles: Demand good; trend steady; supply adequate; $10.25.

Chicago: Demand steady; supply adequate; fine grind, plain $9.54 in 100-lb. bags; bulk, in hopper cars, fine grind $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

Minneapolis: Fine grind, 50-lb. bag $12.25, 100-lb. bag $11.50; bulk, boxcar $10; bulk hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

CHARCOAL

Los Angeles: Demand fair; trend steady; supply ample; hardwood poultry $156 in less than ton lots; $144.40 in ton lots.

San Francisco: Demand steady; supply ample; $141.

Boston: Demand and supply steady; $100.

Chicago: Demand quiet; supply ample; poultry charcoal $110 in 50-lb. multiwalls.

COCONUT OIL MEAL

Los Angeles: Demand slow; trend easier; supply ample; copra cake $80@81.

San Francisco: Demand good; supply tight; solvent $80; expeller $85.

Portland: Demand slow; supply ample; trend unchanged; $83.50.

Seattle: Demand fair; trend steady; supply ample; $80, via truck (California).

COD LIVER OIL (FORTIFIED)

Boston: Demand fair; supply adequate; 600 D, 2,250 A 19¢ lb.; 300 D, 3,000 A 20½¢; 300 D, 2,250 A 18¾¢; 600 D, 1,500 A 18¢; 300 D, 1,500 A 17¢.

New York: Demand limited; trend steady; supply fair; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14⅛@15⅛¢, 1,500 A 18⅛@20¢, 2,250 A 18⅛@21¢, 3,000 A 21⅛@23¢; 600 ICU, 1,500 A 17⅛@19¼¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

New Orleans: Demand light; supply limited; trend steady; 50% solid $107@110.

Los Angeles: Demand good; supply limited; trend steady; 5¢ lb.

Boston: Demand active; supply scarce; 5¢ lb., nominal.

New York: Demand good; trend steady; supply tight; 5⅛@5¼¢ lb., f.o.b. eastern shore.

Denver: Demand fair; trend steady; supply ample; dried $182.40, f.o.b. Denver.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $57.80, meal $88.80.
Atlanta: Feed $63.93, meal $94.98.
Birmingham: Feed $62.64, meal $93.64.
Boston: Feed $62.84, meal $93.84.
Chicago: Feed $51, meal $82.
Cleveland: Feed $59.14, meal $90.14.
Denver: Feed $61.51, meal $92.51.
Ft. Worth: Feed $59.96, meal $90.96.
Indianapolis: Feed $56.36, meal $87.36.
Kansas City: Feed $51, meal $82.
Louisville: Feed $58.21, meal $89.21.
New Orleans: Feed $61.20, meal $92.20.
New York: Feed $62.43, meal $93.43.
Norfolk: Feed $61.71, meal $92.71.
Philadelphia: Feed $62.02, meal $93.02.
Pittsburgh: Feed $59.96, meal $90.96.
St. Louis: Feed $51, meal $82.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $55.

Louisville: Demand dull; trend steady; supply light; $58.45.

COTTONSEED OIL MEAL

Ogden: Supply normal; 41% $77@82.

Cincinnati: Demand fair; trend steady; supply adequate; $72.

New Orleans: Demand slow; supply adequate; trend steady; $75.50@76.

Louisville: Demand fair; trend easy; supply ample; old process $70, new process $68.

Wichita: Demand fair; supply sufficient; 41% old process $72.

Omaha: Demand slow; trend easy; supply ample; 41% solvent $66.80, bulk, Omaha basis.

Philadelphia: Demand slow; trend unsettled; supply fair; $50.50.

Los Angeles: Demand good; trend unchanged; supply limited; $71@72.

San Francisco: Demand good; supply tight; 41% solvent $74.70; 44% $77.70.

Portland: Demand slow; supply ample; trend unchanged; $75.

St. Louis: Demand fair; trend firm; supply limited; solvent $68.

Ft. Worth: Demand good; supply light; 41% old process $71, pellets $2 additional; cottonseed hulls $19.

Kansas City: Demand fairly good; trend steady now after rise; supply tightening up as mills complete crush; old process meal $64.50@65, sacked, Memphis; solvent $63.50.

Boston: Demand fair; supply adequate; $81.

Chicago: Demand and supply fair; hydraulic $64.50, solvent $64, basis Memphis.

Denver: Demand fair; trend steady; supply ample; $69.60.

Buffalo: Demand and supply fair; trend steady to higher; $82, Boston.

Memphis: Demand good; trend steady; supply plentiful; prime 41% protein, old process $64; new process, 41% solvent $63.

Atlanta: Demand fair; trend strong; supply ample; 41% $68.

Seattle: Demand fair; trend steady; supply ample; $82, truck lots, 41% expeller process.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL, POWDERED

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

New York: Demand and supply good; trend steady; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

Kansas City: Demand fair; trend steady; supply adequate; 1,500 ICU 9¾@10¢ lb.; 3,000 ICU 11½@12¢ lb. in ton lots or larger.

DEACTIVATED PLANT STEROL, POWDERED

Chicago: Demand good; supply adequate; 4 million U.S.P. units per lb. 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12 million units per lb., five tons to a carload 28¢ lb.; ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $71.50, net ton, f.o.b. Houston 100-lb. multiwall paper bags; $68.50 in bulk.

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; carlots $63.50, truck load $64.25, net ton, f.o.b. Coronet in 100 lb. multiwall bags $60.50 and $61.25 in bulk.

Cincinnati: 18% phosphorus $81, sacked; 13% phosphorus $64.98, sacked, f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

Texas City, Texas: 18.5% minimum phosphorus, 21% minimum calcium, 24% maximum, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags; bulk, boxcars and hoppers, $3 net ton less than bagged material.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $94.10, delivered; $3 less in bulk.

Trenton, Mich.: Minimum phosphorus 18½%, maximum fluorine .03% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwalls; minimum phosphorus 21%, maximum fluorine .03% guaranteed $94.50, f.o.b. Trenton in 100-lb. multiwall bags.

Denver: Demand good; trend firm; supply ample; $90.

Cincinnati: 18½% phosphorus $92@93.

Portland: Demand slow; supply ample; trend unchanged; $115.

DISTILLERS DRIED GRAINS

Louisville: Demand good; trend steady; supply ample; for April—bourbon grains: light $58, dark $59, solubles $77.

Philadelphia: Demand and supply fair; trend unsettled; dark $69.

Cincinnati: Demand poor; trend steady; supply adequate; by truck $59.

San Francisco: Demand fair; supply ample; solubles $85.

Boston: Demand steady; supply spotty;

light and medium dark $63, dark $64, both bulk, for first half of April.

Buffalo: Demand good; trend steady; supply fair; $63, bulk, Boston.

Seattle: Demand fair; trend steady; supply limited; $67, truck lots.

DRIED BEET PULP

Ogden: Supply average; $44@48.

New Orleans: Demand fair; trend unchanged; supply sufficient; $57@58.

Los Angeles: Demand slow; trend unchanged; supply limited; molasses $52.50@53.60.

San Francisco: Demand good; supply fair; $55.50.

Portland: Demand good; supply limited; trend unchanged; $54.

Milwaukee: Demand good; supply fair; plain $54, molasses $54.

Ft. Worth: Demand fair; supply sufficient; carlots, 50-lb. papers, March, plain or molasses $58.33, April $61.33.

Boston: Demand good; supply ample; $59.75.

Seattle: Demand good; trend firm; supply limited; $49, carlots.

Atlanta: Demand fair; trend steady; supply ample; $67.50.

Buffalo: Demand and supply fair; trend steady; $60.50, Boston.

Denver: Demand good; trend steady; supply ample; $49.23.

DRIED BUTTERMILK

New Orleans: Demand slow; supply adequate; trend unchanged; $12@12.50 cwt.

Louisville: Demand fair; trend steady; supply ample; 12@12¼¢ lb.

Los Angeles: Demand good; supply limited; trend stronger; 12¢ lb.

San Francisco: Demand fair; supply ample; 11¾¢ lb.

Milwaukee: Demand and supply fair; $10 cwt.

Chicago: Demand fair; supply light; medium acid $11@11.25 cwt.; sweet cream $11.25@11.50 cwt. in carlots.

Buffalo: Demand good; trend steady; supply limited; $11.85 cwt.

DRIED CITRUS PULP

New Orleans: Demand fair; trend steady; supply ample; $35@40, f.o.b. Florida.

Los Angeles: Demand and trend steady; supply ample; orange pulp $42 bulk, lemon pulp $40 bulk.

San Francisco: Demand and supply fair; meal $54.

Boston: Demand slow; supply ample; $36, f.o.b. Florida points.

Atlanta: Demand good; trend steady; supply limited; $30@40, f.o.b. Florida producing mills; meal $30@35.

Buffalo: Demand and supply fair; trend steady; $37.50, f.o.b. Florida.

DRIED SKIM MILK

Ogden: Supply normal; $15.15, 100-lb. drum.

New Orleans: Demand fair; trend firm; supply ample; $12@12.50 cwt.

Cincinnati: Demand fair; trend steady; supply adequate; 10½@10¾¢ lb.

Louisville: Demand fair; trend steady; supply ample; 11⅛@12¢ lb.

Philadelphia: Demand slow; supply light; $12.50 cwt.

Los Angeles: Demand fair; trend unchanged; supply ample; 14¢ lb. in less than ton lots; 13⅜¢ lb. in ton lots.

San Francisco: Demand and supply fair; 13¼¢ lb.

Portland: Demand slow; supply ample; trend unchanged; $13 cwt.

Milwaukee: Fair demand; fair supply; $11 cwt.

Boston: Demand good; supply short; 12¢ lb.

Buffalo: Demand good; trend steady; supply ample; spray $10.65 cwt.

Chicago: Demand fair; supply light; $10.75@11 cwt. in carlots.

Minneapolis: Good demand; tight supplies; market firm at $11 cwt.

DRIED WHEY

Ogden: Supply normal; $6.90, 100-lb. bag.

New Orleans: Demand fair; trend steady; supply adequate; $5.50@6.

Cincinnati: Demand fair; trend steady; supply adequate; $6.15 cwt.

Louisville: Demand fair; trend firm; supply ample; 6@6½¢ lb.

Philadelphia: Demand slow; supply light; $6.50 cwt.

Los Angeles: Demand good; trend unchanged; supply ample; $6.10 cwt. in carlots; $6.40 cwt. in l.c.l.

San Francisco: Demand steady; supply good; $5.75 cwt.

Portland: Demand slow; supply ample; trend unchanged; $7 cwt.

Ft. Worth: Demand fair; supply adequate; carlots, standard $6; $6.25 ton lots, f.o.b. warehouse, Ft. Worth.

Boston: Demand good; supply short; 5¾¢ lb., f.o.b. point of shipment.

Chicago: Demand fair; supply tight; $5.50, f.o.b. plant.

Denver: Demand fair; trend steady; supply ample; $6.05 cwt.

Minneapolis: Fair demand; fair supply; $5.50 cwt., f.o.b. producers' points.

Kansas City: Demand good; steady trend; supply light; $5.50 cwt., producers' plants, for both regular and partially delactosed.

Seattle: Demand and trend steady; supply good; $6.40 cwt., ex-warehouse, l.c.l.

FEATHER MEAL (HYDROLYZED)

Los Angeles: Demand fair; trend unchanged; supply ample; $1.85 a unit of protein.

Ft. Worth: Demand excellent; supply limited; 85% to 87% protein $108.50, f.o.b. trucks, north Texas plants.

Boston: Demand good; supply scarce; $85, f.o.b. shipping points.

Atlanta: Demand good; trend steady; supply barely ample; $105, f.o.b. Georgia and Alabama producing plants.

FISH MEAL

Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $172@174.

New Orleans: Demand and supply light; trend steady; menhaden 60% $162@164; scrap $158@159, f.o.b. Gulf.

Cincinnati: Demand fair; trend steady; supply adequate; $164.

Louisville: Demand slow; trend steady; supply light; $175.

Los Angeles: Demand good; supply small; trend stronger; local production, 60% protein $2.45 a unit.

San Francisco: Demand good; supply tight; $2.35 a unit of protein.

Portland: Demand slow; supply ample; trend unchanged; $2.25 a unit.

Milwaukee: Demand and supply fair; 60% $159.

Ft. Worth: Demand fair; limited offerings; 65% Peruvian $158, prompt, f.o.b. Houston.

Boston: Demand active; supply spotty; $160 for last half of March.

Atlanta: Demand good; trend steady; supply ample; Angola $153, f.o.b. ex-vessel, Atlantic Gulf ports.

Minneapolis: Good demand; tight supplies; steady trend; 60% blended fish meal $180, Minneapolis; 70% herring $2.20 a unit of protein, f.o.b. West Coast; $2.25 for May-June.

Denver: Demand good; trend steady; supply tight; $2.40 a unit of protein, f.o.b. West Coast.

Chicago: Demand good; supply tight; eastern menhaden, 60% protein, none available; Gulf, no offerings and no quotes; Canadian herring, 74% protein $2.22 a unit of protein subject to production.

Buffalo: Demand good; trend steady; supply ample; 60% menhaden $175 bulk, $180 sacked.

Seattle: Demand fair; trend firm; supply good; $2.38 a unit protein, delivered, truck lots (Canadian production).

HAY

Ogden: Supply average; $1@1.25 bale; $18 ton in the barn.

Cincinnati: Demand poor; trend steady; supply adequate; by truck—No. 1 timothy $24; No. 1 second cutting green alfalfa $31; mixed $27; wheat or oat straw $19.

Louisville: Demand slow; trend steady; supply ample; local hay, No. 1 $25, No. 2 $23; straws, any variety $25.

Wichita: Demand poor; supply ample; prairie $15, alfalfa $15@18.

Philadelphia: Demand slow; supply light; $32.

Los Angeles: Demand fair; trend unchanged to easier; supply ample; U.S. No. 1 $36@38 new crop, $33@35 old crop; U.S. No. 2 leafy $30@32; U.S. No. 2 green $28@30; U.S. No. 2 $24@26.

Portland: Demand slow; supply ample; trend unchanged; $34.

Ft. Worth: Demand fair for alfalfa; practically nil for prairie and Johnson grass; trend strong on alfalfa account dry weather; supply sufficient; carlots, baled, No. 1 alfalfa $38@40, No. 2 $36@38; prairie No. 2 $26@28; No. 2 Johnson $24@26, delivered Texas common points.

Boston: Demand and supply steady; No. 2 timothy $40@42.

Seattle: Demand and supply fair; trend firm; alfalfa, U.S. No. 2 green $34, truck lots.

Denver: Demand average; trend fair; supply ample; alfalfa, baled, first and second cutting $24@25.

HOMINY FEED

New Orleans: Demand slow; supply fair; trend steady; $48.50@49.

Cincinnati: Demand good; trend steady; supply adequate; $47.

Louisville: Demand slow; trend steady; supply light; $48.50.

St. Louis: Demand slow; trend steady; supply adequate; yellow $45.

Milwaukee: Demand good; supply fair; $45.

Kansas City: Demand good; trend steady to stronger; very few offerings; yellow $37@38, bulk, $3.50 more for sacks; no white offered.

Boston: Demand active; supply adequate; $56.

Chicago: Demand fair; supply good; $43@43.50.

Buffalo: Demand fair; trend lower; supply good; $49, bulk, Boston.

Memphis: Demand slow; trend steady; supply limited; white $49.80, yellow $49.80.

Seattle: Demand and supply good; trend steady; $54, carlots.

LINSEED OIL MEAL

New Orleans: Demand fair; trend steady; supply ample; $84.50@86.50.

Cincinnati: Demand poor; trend steady to higher; supply fair; new process $91.50; old process $99.

Louisville: Demand dull; trend strong; supply ample; old process $104.50; new process $93.50.

Wichita: Demand slow; supply ample; 34% $86.

Omaha: Demand good; trend strong; supply tight; 34% solvent $80.80, bulk; 32% old process $80.80, Omaha basis.

Minneapolis: Fairly good demand; supplies adequate; steady trend; solvent $75.50 April, $76.50 May-June.

Chicago: Demand fair; supply tight; solvent $79.50; expeller $90, basis Minneapolis.

Denver: Demand fair; trend steady; supply tight; $93.50.

Philadelphia: Demand fair; trend unsettled; supply light; 34% $89, nominal.

Los Angeles: Demand good; trend firmer; supply limited; local production, 29% protein $71.

San Francisco: Demand fair; supply ample; $80.

Portland: Demand slow; supply ample; trend unchanged; $85.

Milwaukee: Demand good; supply tight; old process $97.50, new process $85.50, both nominal.

Ft. Worth: Demand slow; supply adequate; solvent $80 rail, $98 truck.

Kansas City: Demand fair; trend steady; supply tight as production drops to almost nothing; old process meal $86, bulk, Minneapolis; solvent $74.50@75.

Boston: Demand slow; supply adequate; $92.

Seattle: Demand fair; trend firm; none available; 34% protein $90, carloads.

MALT SPROUTS

Boston: Demand and supply limited; $42.50.

Chicago: Demand fair; supply adequate; No. 1 $41.

Milwaukee: Demand good; supply fair; odd weights $36.50, even weights $38.50.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $43.

New Orleans: Demand fair; trend steady; supply adequate; $42@44.

MEAT AND BONE MEAL

Los Angeles: Demand good; trend fully steady; supply light; 50% protein $2.05 a unit.

Kansas City: Demand very good; trend steady; supply fairly tight; 50% meat and bone scraps $107.50.

Boston: Demand and supply steady; $1.60 a protein unit; converted 50% $92.50.

Chicago: Demand fair; supply light; 50% protein $95@105.

St. Paul: Fair demand; adequate supplies; steady trend; $107@112 for 50% meat and bone meal.

New York: Demand poor; trend lower; supply fair; 50% $90.50, 55% $98, bulk; 50% $93.50, 55% $101, sacked.

Denver: Demand good; trend firm; supply below normal; 50% $102.50 truck lots; $105 small lots.

Ft. Worth: Demand normal; supply adequate; meat and bone, 50% $97.50@100, f.o.b. or delivered Ft. Worth.

St. Louis: Demand fair; trend firm; supply adequate; $105.

Portland: Demand good; trend higher; supply ample; $2.10 a unit.

San Francisco: Demand good; supply ample; $1.95 a unit of protein plus $2.50 for sacks.

Omaha: Demand fair; trend steady; supply ample; $105.

Wichita: Demand moderate; supply sufficient; 50% $110, f.o.b. plant; 55%, no quotations, no offerings.

Louisville: Demand fair; trend firm; supply good; $105@115.

Cincinnati: Demand good; supply fair; trend stronger; 50% meat and bone scraps $100.

New Orleans: Demand good; trend steady; supply ample; $110@112.

Ogden: Supply average; $105 in 100-lb. bags.

Buffalo: Demand good; trend stronger; supply ample; 50% meat scraps $100 bulk, $105 sacked.

Seattle: Demand good; trend steady; supply ample; 50% protein $105, ex-warehouse.

MILLFEED

Minneapolis: Pickup early in the week strengthened bran $2 and middlings $2.50 as mixers replenished inventories; bran $44.50; middlings $48@48.50; red dog $48.

Kansas City: Demand very good; trend steady to stronger; supply very tight, especially on sacked feeds and more so on shorts than bran; bran $39.50@40.25, shorts $42.25@43, sacked; bran $35.25@36, shorts $39.50@40.25, middlings $39.50@40.25, bulk.

Wichita: Demand good; supply adequate; basis Kansas City: bran $40.25, shorts $43; both bran and shorts were up $1, compared with the preceding week.

Ft. Worth: Demand good; supply sufficient on bran, limited on shorts and middlings; carlots, burlaps, prompt, bran $47, gray shorts $51, bulk middlings $47.50, nominal, delivered Texas common points; unchanged on bran, $1.50 higher on shorts and middlings compared with previous week.

Chicago: Prices for both standard bran and middlings showed some recovery during the week ending March 25 but red dog was unchanged. Running time for the mills is still low. Trade remains spotty; it was on the active side Monday but fell off again the next day. There was some pickup in the demand in line with the general betterment on the part of commercial mixed feed manufacturers. Quotations: bran $47@47.50, middlings $48@48.50, red dog $49.50.

Omaha: Demand fair; trend steady; supply ample; sacked bran $40.50; sacked gray shorts $43.50; bulk standard midds. $40; all Omaha basis.

Cincinnati: Demand fair; trend steady to higher; supply adequate; bran and middlings $53.50.

St. Louis: Demand fair; trend steady; supply ample; bran $44.75@45.25, shorts $47.50@48, sacked; bran $42@42.50, shorts $44.50@45, middlings $44@44.50, bulk.

Memphis: Demand quiet; trend steady; supply ample; wheat bran $47.50, gray shorts $50, standard midds. $49.50.

Boston: Demand cautious; supply spotty; bran $57, middlings $56.

Buffalo: Millfeed prices advanced on steady demand and prices held until mid-

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week when all items lost 50¢. Country trade demand in New York State has been good. Medium and larger mixers, however, had no incentive to stockpile because their business didn't pick up. Sacked and bulk bran ended $1@1.50 higher; sacked and bulk middlings rose $2@2.50 and sacked and bulk red dog gained $1.50. Quotations March 25: sacked bran $49@49.50, bulk $44.50@45; sacked middlings $49.50@50.50, bulk $45@46; sacked red dog $50.50@51, bulk $46@46.50.

Philadelphia: Demand spotty; trend unsettled; supply fair; bran $56, standard midds. $58, red dog $58.

New York: Demand good; supply fair; trend upward; bran $58@58.50, standard midds. $58@58.50.

New Orleans: Demand fair; trend steady; supply adequate; bran $50.50@51.25, shorts $53@53.75, sacked; bran $46.50@47.25, shorts $49@49.75, bulk.

Louisville: Demand fair; trend stronger; supply normal; bran $50.60, mixed feed $51.85, shorts $54.60, middlings $55.30.

Denver: Demand fair; trend steady; supply ample; shorts $42.25, bran $39.75, mill run $41.

Seattle: Demand fair; trend steady; supply limited; $46, common transit points.

Portland: Demand slow; trend lower; supply ample; $42.

Ogden: Supply average; to Utah and Idaho: red bran and mill run $44, middlings $49; to Denver: red bran and mill run $51, middlings $56; to California: red bran and mill run $51.50, middlings $56.50, f.o.b. San Francisco and Los Angeles.

Los Angeles: Demand fair; trend easier; supply ample; standard mill run $47@48; red bran $51@52.

San Francisco: Demand good; supply tight; millfeed $49.50, red bran $55.

MINERAL FEED

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

Ft. Worth: Demand good; supply light; all-purpose granules $90, block $97; mineral phosphorus 6% granules $105, block $110; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules $87, phosphorus 2% $77 (all in 50-lb. paper bags).

Portland: Demand slow; supply ample; trend unchanged; $42.

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Wichita: Demand moderate; supply sufficient; all-purpose with iodine, 50-lb. blocks $97.50, 100-lb. bags $92.50, f.o.b. plant.

Denver: Demand good; trend steady; supply ample; $155.

Ogden: Supply average; $113 in 50-lb. blocks; $103, granular, 50-lb. bags.

Seattle: Demand fair; trend steady; supply good; mixer mineral $48, ex-warehouse; all-purpose mineral $85, ex-warehouse.

MOLASSES

New York: Demand fair; trend steady; supply good; blackstrap 16¢ gal., tank cars, tank wagons, f.o.b. New York.

Denver: Demand fair; trend steady; supply ample; 12½¢ gal., New Orleans; $20.95 ton, West Coast.

Kansas City: Demand a little better recently; trend steady; supply adequate; 12¢ gal., tank car, New Orleans.

Boston: Demand steady; supply adequate; 16½¢ gal. in tank cars.

Ft. Worth: Demand good; supply sufficient; blackstrap 12¾¢ gal., f.o.b. Houston; truck $28.50 ton, seller's market price on date of shipment.

Milwaukee: Demand and supply fair; blackstrap 12¼¢ gal., f.o.b. New Orleans.

St. Louis: Demand slow; trend steady; supply ample; 12¢ gal., New Orleans.

Minneapolis: Fair demand; ample supplies; steady trend; 12⅛@12½¢ gal., New Orleans; $34 ton, tank trucks, delivered.

San Francisco: Demand and supply good; $33, f.o.b. cars, Richmond, Cal.

Los Angeles: Demand good; trend unchanged; supply adequate; $22, bulk, f.o.b. tank cars; $22.25, bulk, f.o.b. tank trucks.

Louisville: 12¼¢ gal., tank car lots, f.o.b. Gulf ports.

Cincinnati: Demand fair; trend steady; supply adequate; 12¼¢ gal., New Orleans.

New Orleans: Demand fair; trend steady; supply adequate; 12⅝¢ gal., tank cars and trucks; 600-lb. customers' drums $8.33.

Buffalo: Demand and supply good; trend steady; 16½¢ gal., f.o.b. Albany.

Atlanta: Demand very little; trend steady; supply good; citrus $26, bulk, f.o.b. Florida producing points.

Memphis: Demand quiet; trend steady; supply ample; blackstrap 12¾¢ lb., tank car, f.o.b. New Orleans.

Seattle: Demand fair; trend easy; supply good; $22, f.o.b. Seattle, tank car lots or truck lots.

NIACIN

New York: Trend steady; $8 kilo, 10-kilo lots; $8.20 kilo, 5- and 2½-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Minneapolis: Demand slow; ample supplies; steady trend; feeding rolled oats $77; feeding oatmeal $67.50; crimped $55; pulverized $45.50; reground oat feed $18.

Chicago: Demand and supply fair; reground oat feed $14.50@15; fine ground feeding oatmeal $68@70; feeding rolled oats $75@78.

Boston: Demand irregular; supply adequate; white pulverized $57; reground oat feed $28.

Ft. Worth: Demand slow; supply sufficient; oat millfeed $50.70; reground oat millfeed 4% protein, sacked $31, 3% $28.70.

Portland: Demand slow; supply ample; trend unchanged; rolled $65, ground $62, cleaned $65.

Los Angeles: Demand slow; trend unchanged; supply ample; pulverized, local production $62.

Philadelphia: Demand slow; supply fair; pulverized white $54.50; Canadian oat feed $32; domestic oat feed $28.

Louisville: Demand fair; trend unsettled; supply normal; reground $23.80, down $2; rolled $78.30, down $2.50; feeding $76.30, unchanged; pulverized $52.30, unchanged; crimped $67.30, down 50¢.

Cincinnati: Demand poor; trend steady; supply adequate; pulverized white oats $49@51.50; rolled oats $83.

Memphis: Demand quiet; trend steady; supply plentiful; 3½% protein, reground oat feed $19.50.

Seattle: Demand and supply fair; trend steady; $53, bulk, truck lots.

OYSTER SHELL

Boston: Demand and supply steady; $26 in paper.

Portland: Demand slow; supply ample; trend unchanged; western $34, eastern $38.50, granite grits $28, shell flour $24.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Los Angeles: Demand good; supply ample; trend steady; $14.80.

Louisville: Demand good; trend firm; supply normal; in 80-lb. paper $23.45; in 50-lb. paper $23.70; in 25-lb. paper $25.95.

Cincinnati: Demand fair; trend steady; supply adequate; $24.45.

New Orleans: Demand good; trend firm; supply ample; $23.50@24.

Seattle: Demand and trend steady; supply good; eastern $36, carlots.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $42.

Atlanta: Demand fair; trend steady; supply limited; $63, f.o.b. Georgia and Alabama producing mills.

PEAT MOSS

Chicago: Demand good; supply short; standard 7½ cu. ft. bale $3.85@3.95 bale.

Boston: Demand and supply steady; $3.15 bale in carlots.

Portland: Demand good; supply ample; trend unchanged; $3 bale.

San Francisco: Demand and supply fair; $3.65 bale.

Los Angeles: Demand good; trend unchanged; supply ample; Canadian 6.1 cu. ft. bales $3.75.

Philadelphia: Demand fair; supply light; $2.95 bale, f.o.b. pier.

Seattle: Demand and supply good; trend firm; $2.80 bale, truck lots.

POTASSIUM IODIDE, U.S.P.

Chicago: Demand good; supply adequate; 96% KI stabilized with calcium stearate, 200 lb. in 100-lb. cartons $1.35; 100-lb. cartons $1.36; freight prepaid to destination.

Cincinnati: Demand good; trend steady; 96% KI in calcium stearate or carbonate mixtures, 250-lb. drums $1.35; 200 lb. in 100-lb. drums $1.35; 100-lb. drums $1.38; 25-lb. drums $1.41.

POULTRY BY-PRODUCTS

Boston: Demand active; supply tight; $108, f.o.b. shipping points.

Ft. Worth: Demand good; supply limited; 55% protein $112.50, f.o.b. north Texas plants.

Los Angeles: Demand fair; trend unchanged; supply ample; $1.85 a unit of protein.

Atlanta: Demand good; trend steady; supply ample; $105.50, f.o.b. Georgia and Alabama producing mills.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gm. in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in less than ton lots in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more; freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand slow; supply moderate; carlots, rice bran $34@35, f.o.b. south Texas rice mills; hulls $2.50, f.o.b. mills.

Los Angeles: Demand fair; trend unchanged; supply limited; bran, California production, high fat content $59.

San Francisco: Demand good; supply ample; bran $45; polished $49.

Atlanta: Demand good; trend steady; supply very limited; bran $50@52, delivered.

SCREENINGS

Minneapolis: Very short supplies of both Canadian and domestic screenings; demand not quite so brisk as a week earlier; lights $10@20; mediums $21@30; heavies $31@40; Canadian bulk $27.50; Canadian ground $36.50; flaxseed screenings $35; oil type flaxseed screenings $45, basis 15%.

Chicago: Demand slow; supply adequate; ground grain screenings $36@36.50; Canadian, bulk $31.50.

Ft. Worth: Demand slow; supply sufficient; ground grain $28.

Cincinnati: Demand fair; trend steady; supply adequate; malt house $26.40@30.40, Minneapolis; Canadian $39, bulk.

Buffalo: Demand good; trend steady; supply fair; ground in sacks $44.50, New York; unground in bulk $36, New York.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand fair; offerings light; carlots, bulk, No. 2 yellow milo $2.34@2.35, delivered Texas common points.

Los Angeles: Demand steady; trend unchanged; supply fully ample; milo $2.50@2.55 cwt., bulk.

SOYBEAN OIL MEAL

Denver: Demand fair; trend firmer; supply ample; $77.20.

Boston: Demand steady; supply ample; 44% $51, 50% $55.50, both bulk, f.o.b. Decatur.

Kansas City: Demand fair to good, although not seemingly as good as the rapid price rise indicates; trend steady; supply adequate at higher level, but lighter production is looked for during April since several mills will be shut down; meal for Kansas City and western shipment $54, bulk, Decatur; unrestricted meal $55@56.

Ft. Worth: Demand good; supply limited for nearby; carlots, southern origin, 44% March-April $66.60, May-September $69.80; truck $70, 50% March-April $74.30, May-September $77.30.

Milwaukee: Demand good; supply fair; $54, bulk, Decatur.

St. Louis: Demand good; trend firm; supply adequate; 44% $66.50.

Minneapolis: Supplies of meal were reduced this week as demand suddenly improved and moved the price up $2.50 to $50, bulk, Decatur, for 44% meal for Minnesota shipment; 50% quoted at $57, bulk, Decatur.

Atlanta: Demand fair; trend strong; supply ample; 44% $72.

Memphis: Demand good; trend steady; supply plentiful; prime 44% solvent $65, f.o.b. Memphis.

Seattle: Demand fair; trend firm; supply ample; $82, carlots.

Portland: Demand moderate; supply ample; trend steady; $49, f.o.b. Decatur.

San Francisco: Demand good; supply ample; $80.96.

Cincinnati: Demand fair; trend higher; supply adequate; $55, bulk, Decatur.

New Orleans: Demand fair; trend steady; supply adequate; $65@66.

Chicago: There was a rather marked reversal in the price trend for soybean oil meal during the week ending March 25. Feed manufacturers who had been holding off while demand for their product was slow earlier this spring were back in the market and found little in the way of pressure of offerings to meet their demand. There was also a considerable step-up in meal futures prices at this terminal with many of the delivery months edging well into new high seasonal ground. Most of the call proved to be for rather nearby shipment, but at the same time there was growing interest shown in April forward shipment. Much comment was stirred up by the Census Bureau report that came out this week and while showing a dip in production for February at 800,000 tons vs. 872,600 tons in January, still stocks of meal in processors' hands at 87,700 tons the end of February, represented an increase from 68,200 tons a month earlier. Quotations: 44% protein soybean oil meal, bulk, unrestricted, basis Decatur $55.50@56; eastern restricted $53.50@54; 50% protein, bulk, unrestricted $61@62; eastern restricted $57.50@58.

TANKAGE

Chicago: Demand fair; supply fair; 60% protein in 100-lb. bags $110.

Kansas City: Demand fair to good; trend steady after rise; supply adequate though tighter than it has been; 60% digester $110.

Ft. Worth: Demand fair; supply very scarce; 60% digester $105, f.o.b. Ft. Worth.

St. Paul: Fair demand; adequate supplies; steady trend; 60% digester $105@108.

Omaha: Demand fair; trend steady; supply ample; $110.

Wichita: Demand moderate; supply sufficient; 60% $115, f.o.b. plant.

Louisville: Demand fair; trend steady; supply good; 60% $110@120.

Cincinnati: Demand fair; trend steady; supply ample; 60% digester $107.50.

VEGETABLE AND ANIMAL FAT

Ft. Worth: Demand good; limited offerings; 6¾¢ lb., f.o.b. north Texas area.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.50; in 25-lb. drums $1.55; freight allowed to destination.

New York: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

Rochester, N.Y.: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

AFMA

(Continued from page 1)

Control Officials, entertainment at the "Golden Hour", and selection of two presiding officers.

Mr. Bopst, Maryland state chemist, will be honored by AFMA for his more than 30 years of service as AAFCO secretary and for his lifetime of "promoting cooperation and better understanding between feed control officials and the industry." W. E. Glennon, AFMA president, will present a plaque to Mr. Bopst at the first morning session, May 12.

AFMA's convention social reception for all delegates and their ladies will be renamed this year to the "Golden Hour". It will feature "Dancing Waters", an electronically - controlled water display producing a variety of formations under multi-colored lights to accompanying music. The cocktail party for more than 3,000 people will help celebrate the beginning of AFMA's second 50 years.

Presiding officers for the two official convention speaking programs May 12-13 will be Mr. Glennon and Paul Ray, president, Save Way Feed Mills, Ft. Worth, Texas. Mr. Ray is also serving as chairman of the 1959 AFMA convention program committee.

Convention features previously announced include "Production to Specification," a 75-minute, live, closed-circuit, color television show featuring problems and techniques of producing and marketing meat, milk and eggs; Dr. Nicholas Nyaradi, director, Institute of International Studies, Bradley University, discussing "Free Enterprise or Disaster"; D. G. Williamson, secretary, Conference of American Small Business Organizations, talking on "What About Small Business"; I. S. Riggs, chairman of the AFMA Board, discussing AFMA's service role in the "unfolding and expanding" feed industry.

AFMA officials expect more than 2,500 delegates to register for their 51st annual meeting, and the sixth National Feed Show.

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SOYBEAN

(Continued from page 1)

only about 5% ahead of a year earlier. The result was a price for meal which showed no profit margin for the processor, and the cutbacks began in earnest.

Minneapolis flax plants, which had been crushing beans earlier this winter, are now out of it. Ralston Purina also announced that its Bloomington, Ill., plant is closed for overhaul. Other plant shutdowns are also in prospect, they said, for overhaul work which was postponed during the winter.

The curtailment comes, the processors said, at a time when the feed business is normally increasing and at a time when the percentage of protein used in feeds is on the upswing.

As an indication of the expanding use for soybean meal, they point at the mill stocks reported by crushing plants at the end of February. Despite record crushing, the stocks were 87,700 tons. While this total was 14,000 tons higher than February a year earlier, it was 1,000 tons less than the end of February in 1957. In 1956, mill stocks at the end of February were 137,400 tons. In 1955, it was 90,900 tons and in 1954, 162,500 tons.

JOINS BOARD OF TRADE

CHICAGO—John Anderson, Bache & Co., Chicago, has been elected to membership in the Board of Trade of the city of Chicago, Warren W. Lebeck, secretary of the exchange, has announced.

CONFERENCE

(Continued from page 1)

tion of distillers dried feeds will probably be slightly over 300,000 tons this year, compared to the 279,400 tons produced in 1958. Not since 1952 has production exceeded 300,000 tons.

Better production should result from passage during the past year of legislation which extends the time liquor can remain in government warehouses, he said.

In welcoming guests at the conference, Dr. Boruff described some of the activities of the council. He said it currently sponsors 11 projects at eight academic institutions. These projects involve feeding tests with beef and dairy cattle, swine, sheep, calves, turkeys, chickens, mink, rabbits and dogs.

The purpose of the conference, he said, is to exchange ideas and information "that will serve both as a guide and a stimulus for our industry to support research in areas of interest to feed manufacturers."

New Officers

Dr. Boruff's successor as president is George M. Brinker, manager, grain products division, National Distillers Products Co., New York.

Also elected were: Walter Devlin, the Fleischmann Distilling Corp., first vice president; C. Paul Eberhart, Schenley Distillers, Inc., second vice president; Howard T. Jones, Distilled Spirits Institute, secretary and assistant treasurer, and Millard Cox, Kentucky Distillers Assn., treasurer and assistant secretary.

UNIDENTIFIED GROWTH FACTORS IN CORN DISTILLERS DRIED SOLUBLES—PRESENT STATUS—In introducing a report by Texas workers on further UGF studies with distillers dried solubles, Dr. J. R. Couch of Texas A&M College said it is apparent that a part but not all of the growth promoting activity originally attributed to this product can be assigned to molybdenum, potassium and zinc. Not all of the activity of the ash appears to be due to these minerals. Furthermore, threre remains a small growth response attributable to some component of corn distillers dried solubles not present in the ash. The growth promoting property of the ash, he said, may involve an as yet unidentified mineral, or a possible unidentified interrelationship among minerals. The greater response to corn distillers dried solubles than to the ash of this product would appear to be due to an organic constituent or to some mineral which is labile under the conditions of ashing.

George M. Brinker

NEW PRESIDENT — George M. Brinker, manager, Grain Products Division, National Distillers Products Co., New York, has been named president of the Distillers Feed Research Council to succeed Dr. C. S. Boruff, Hiram Walker & Sons, Inc. Mr. Brinker has been in various phases of the feed ingredient and formula feed industry for more than 30 years. He has been in New York for the past five years. Previously, he represented National Distillers in Columbus, Ohio.

In the present series of experiments, said Dr. Couch, corn distillers dried solubles was extracted with ethanol, and the extract thus obtained was subjected to further subsequential fractionation with acetone, ether and isopropanol. The fractions were fed to turkey poults in a series of four-week growth trials.

Dr. Couch said a growth stimulating component of the solubles was highly concentrated by a series of extractions with organic solvents. The addition of 2.5 gm. of an impure isopropanol-insoluble component per kg. to poult diets resulted in reproducible and statistically significant growth responses of 7 to 9%.

A second component which was soluble in isopropanol produced growth depression in two out of three experiments.

Corn distillers dried solubles gave a growth response which averaged 8.2% in two out of three experiments but had little effect in the third.

EFFECT OF ORGANIC AND INORGANIC SOURCES OF UNIDENTIFIED GROWTH FACTORS ON GROWING PIGS—Dr. W. M. Beeson, department of animal science, Purdue University, reported that, on the average, pigs fed four sources of unidentified growth factors (corn distillers dried solubles, brewers dried yeast, dried whey and Lassen process fish solubles) gained 6.5% faster than their controls which received no antibiotics.

Dr. Beeson said pigs fed the four sources of unidentified growth factors gained only 1.9% faster than those receiving 50 gm. chlortetracycline per ton. "Therefore, since the response to unidentified growth factors was less in the presence of an antibiotic, it would appear that antibiotics tend to mask a part of the unidentified growth factor response," Dr. Beeson said.

A high incidence of parakeratosis was obtained in tests at Purdue on a low zinc diet (no zinc added) with a recommended level of calcium (0.68%). Dr. Beeson said data were obtained to indicate that zinc does not appear to be the mineral factor responsible for the unidentified growth factor response.

Corn distillers dried solubles, according to Dr. Beeson, contain a factor or factors which stimulate gains of young pigs fed semi-purified diets, indicated by gain increases of 14%, 17.3% and 4.7% in three separate experiments.

Results of fractionation studies, Dr. Beeson reported, tend to indicate a possible liberation of a bound form of unidentified growth factor in corn distillers dried solubles by methanol extraction. A methanol soluble fraction increased gains 13.5%, the residue after methanol extraction increased gains 19.2%, for a total of 32.7% compared to a 17.3% increase from the addition of crude corn distillers dried solubles.

Dr. Beeson explained that the Purdue experiments with early weaned pigs were conducted (1) to study the effect of chlortetracycline on the unidentified growth factor response, (2) to study the relationship of certain minerals (zinc, selenium and strontium) to the organic growth response and (3) to compare certain chemically extracted fractions or ashed samples of corn distillers dried solubles with the crude material.

NEW FINDINGS ON THE ROLE OF FAT IN POULTRY NUTRITION—Dr. L. C. Norris, department of poultry husbandry, Cornell University, discussed research involving the unidentified biological properties of fats and the differences in effects obtained with them from the requirement for the essential fatty acids and the effects derived from energy content.

Dr. Norris said results of research in which either fat-extracted or fat-free diets were fed show that, although the essential fatty acids (linoleic, linolenic and arachidonic acids) are probably required by the chick, the requirement is "quite small." This same research, he said, also indicates the likelihood that at time of hatching the chick is supplied with a sufficient quantity of essential fatty acids through its body reserves and the unabsorbed egg yolk to meet its needs through the first few weeks of life.

"Evidence has accumulated during the past few years which shows that some fats possess unidentified properties which stimulate chick growth and increase egg weight," Dr. Norris said. "These properties are possessed in particular by fats of vegetable origin. They appear not to be due to content of essential fatty acids or to the caloric value of the fats. To what extent fats obtained from animal tissues possess these properties is not known at present, but the available evidence indicates that occasionally, at least, they are less effective than the vegetable fats which have been studied."

Dr. Norris reported that "highly significant" growth increases were obtained in experiments with chicks at Cornell University by increasing the unsaturated fat content of purified diets from 5% to 10% and practical diets from about 3% to approximately 10%. It was found that no further growth increase was obtained by raising the unsaturated fat content of purified diets to 20%.

Dr. Norris said the responses were obtained with purified diets supplemented with sources of unidentified growth factors and with basal purified diets. "The growth of chicks fed hydrogenated vegetable fat was significantly less than that of chicks fed an equal quantity of non-hydrogenated vegetable fat, indicating that the growth-promoting effect was markedly reduced during hydrogenation."

It was also reported by Dr. Norris that significant growth increases in chicks fed purified diets have been obtained with corn oil at the University of Illinois and observations of significant increases in egg weight have been made at Washington State College.

"The evidence indicates," Dr. Norris commented, "that the improved growth is not due to a lack of capacity of the chicks to eat more feed, or to a more optimum concentration of energy unrelated to food capacity. The evidence also indicates that the response is not due to the lower specific dynamic action of fat making more energy available for growth. The effect, therefore, appears to be caused either by an unknown substance in unsaturated vegetable fats or by heretofore unrecognized characteristics of the unknown components of fat."

THE REQUIREMENT OF POULTRY FOR ZINC—An addition of 50 mg. of zinc per kilogram of diets for growing chicks and laying hens and 100 mg./kg. to turkey diets will eliminate dependence on galvanized equipment and will serve as a safety factor for varying degrees of availability in the ingredients in the ration.

This was reported to the conference by Dr. James Savage, poultry husbandry department, University of Missouri. Dr. Savage and Dr. B. L. O'Dell, agricultural chemist at the University of Missouri, reviewed studies on zinc needs for poultry and described work under way at Missouri.

Studies currently in progress at the University of Missouri include trials on the effect of zinc in laying hen diets and in practical chick rations. The rations for chicks are a corn-soy type or corn-soy plus unidentified growth factor supplement, which is a mixture of 3% fish solubles, 3% partially delactosed whey and 5% of corn distillers dried solubles.

"The usual corn-soy practical chick ration will contain from 30 to 45 mg./kg. of zinc, and judging from tests with purified diets this should be adequate for growth providing all of the zinc is available and the chicks have access to additional zinc through the drinking water supply and galvanized equipment," Dr. Savage said.

"In all reports where definite symptoms of a zinc deficiency have been described, it has been necessary to use purified diets of low zinc content and to take special precautions to eleminate contamination from extra-dietary sources such as galvanized feeders, watering pans and brooder pens. Since these obvious deficiency symptoms do not appear in practical rations, the beneficial effect of a zinc supplement must be evaluated by the magnitude of growth response produced in chicks and growth and perhaps the feathering in turkey poults," he said.

"Most of the experiments reported to date indicate that the majority of practical rations furnish sufficient zinc. However, an occasional response to zinc supplementation suggests that either some rations are borderline in zinc content or that lack of availability may be a variable factor. Under these conditions one may not wish to depend on obtaining needed zinc from the galvanized equipment and other environmental sources and should consider including a zinc supplement in the ration."

Pending final studies on the requirements for each class of poultry, Dr. Savage suggests the addition of 50 mg./kg. to diets for growing chicks and laying hens and 100 mg./kg. to turkey diets.

AN EFFECT OF NEUTRAL FAT, CALCIUM AND CORN DISTILLERS DRIED SOLUBLES ON ROUGHAGE UTILIZATION BY RUMINANTS—Three experiments conducted with sheep at the University of Kentucky Experiment Station "to extend the fundamental principles of in vivo cellulose digestion and to determine the net utilization of corn distillers dried solubles protein" were discussed by Robert Grainger, animal nutritionist at the University of Kentucky.

The experiments, conducted by Dr.

Grainger and J. W. Stroud, showed that 7% corn oil significantly decreased cellulose digestibility. Corn distillers dried solubles (119 gm.) partially and 4.4 gm. calcium completely alleviated the depression. No definite relationship was established between cellulose digestibility and percent fecal soaps or apparent digestibility.

One of the trials, held to "derive a sensitive method for determining fecal metabolic protein with a semi-practical feeding regime for sheep," indicated a new concept on fecal metabolic protein in ruminants, Dr. Grainger reported.

He said that by use of separate fecal metabolic protein corrections for 5, 8 and 11% protein levels, the net utilization of isolated soy protein and corn distillers dried solubles protein was determined. At all levels except the 5% protein level the net utilization of the corn distillers dried solubles protein by wethers was equal to that of isolated soy protein, he said.

PELLETED FEEDS FOR RUMINANTS—Dr. J. K. Loosli, department of animal husbandry, Cornell University, said a survey of available information shows that pelleted concentrates or hay are easier to handle with machinery and require much less space for storage than the conventional forms of feeds. "These advantages are greater for forages and roughages than for concentrates," he said.

Dr. Loosli noted that the use of pelleted concentrates for dairy cows is increasing and he believes this trend will probably continue. "This seems to be true in spite of the failure to demonstrate any increased palatability or feed intake, improved utilization or greater milk production with pelleted concentrates," he commented. "Cows may eat pelleted concentrates slightly faster than meals (an advantage in some milking parlors), but the observed difference is small."

Greatest advantages from pelleting roughages, Dr. Loosli said, have been observed with poor quality feeds, both for lambs and steers. "The intakes and rate of gain are often increased and the amount of feed per unit of gain is decreased with pelleted forages, but all tests have not shown advantages for fattening cattle and lambs," commented Dr. Loosli. He said there is sufficient evidence to show that pelleted feeds offer an important advantage for feeding animals under range conditions.

Limited supplements of pelleted high quality dehydrated alfalfa have usually improved animal responses, but, according to Dr. Loosli, the cost is often too high. He referred to studies which show that the use of wafered or pelleted forage for lactating cows has not increased feed intake or milk yields. "When the hay has been finely ground before pelleting, the fat content of the milk is lowered and digestibility is depressed," he said.

"Unless the cost of pelleting or wafering hay can be reduced much more than now seems possible, it is not likely that any large proportion of the roughage for beef or dairy cattle will be pelleted, except in areas where special transportation or storage problems exist."

TRENDS IN SWINE NUTRITION—Dr. Damon Catron, department of animal husbandry, Iowa State College, expressed the opinion that the "primary thing" the feed manufacturer has to offer "tomorrow's swine producer is service—by putting science and technology in the bag or in the bin with trained manpower follow-up to see that it is properly used in the feedlot."

Dr. Catron rated the application of life cycle nutrition principles as the No. 1 opportunity for the feed man to improve his service to the feeder.

"Probably the most important factor affecting the future of pork production," Dr. Catron said, "can be answered by this question, 'What makes the farmer the most money?' "

He said there appear to be two types of trends influencing the swine business—short term and long term.

Short term trends (within five years) he listed include: (1) Surpluses of feed grains in the corn belt, (2) "confused, inefficient floundering," (3) "good" deals and "bad" deals in securing and holding the swine feed market, (4) pork's competition with broiler meat, turkey and beef and (5) grain banks set up be feed companies.

Long term trends which he said appear to be shaping up are: (1) The demand for pork will increase with the increase in population, purchasing power and the standard of living, (2) utilization of feed-crop surpluses, (3) larger, more efficient, well managed swine producing units involving more capital and greater specialization, (4) relative technological advances and the rapidity of their application, (5) medical research on human diseases associated with diet and (6) impact of promotion and advertising on the consumption of different foods.

Types of Producers

Dr. Catron said present trends indicate there will be three principal types of farms producing hogs in the future: (1) Commercial-type family farms, ranging from 300 to 600 acres in size and operated by a man with some family help and hired labor; (2) production-line pork factories, highly specialized units producing 5,000-10 000 hogs a year managed by men with "extra skill" and buying all of their feed, and (3) large-scale corporate-type farms, with 1,000-10,000 acres of land and lots of capital, and operated like factories producing several products.

Dr. Catron talked of the trend in which swine production has spread beyond the Midwest. Among the factors which he believes have encouraged recent increases in hog production in southeastern, southern and southwestern states are: Government agricultural programs limiting acreages of cotton and tobacco; the need for other sources of farm income by low-income groups; natural climatic advantages (crop season of 8-12 months and less expensive buildings); relatively cheaper labor available; technological developments in soil conservation, irrigation and fertilizers; development of better adapted varieties of feed grains and pasture crops which are insect, heat and drouth resistant; pork deficient areas importing pork; less efficient, defunct broiler producers with buildings and feed mill capacity to feed 16 million hogs; development of feeder-financing and integration; investors with capital, and more soybeans produced in the South with converted cotton-seed plants for processing.

Dr. Catron also listed problems facing "neophyte" swine producing areas. These problems include, he said: Heat, dust and lack of "sure" water supplies in some areas; "warm climates, with less extremes in temperature and weather, have tendency to perpetuate disease and parasites"; "cheap" labor may require closer supervision; "lack of experience"; greater costs in producing or securing feed grains; "production in new developing areas can saturate local markets with pork quickly," and "greater dependence of producer on 'outside' capital and know-how."

MILK REPLACERS FOR VEAL CALVES—A study made at Iowa State College to evaluate two veal calf feeding systems employing moderate levels of whole milk feed plus dry feeds and to determine the values of three high fat milk replacers as substitutes for whole milk was outlined by Dr. Norman Jacobson, department of dairy husbandry, Iowa State.

Dr. Jacobson said liberal whole milk feeding results in good veal; however, "since the cost sometimes exceeds the returns, more economical systems are needed. Milk replacers containing ingredients of 'vegetable' origin, as compared to animal products, would seem to offer a possible solution, but use of such ingredients gives rise to a number of nutritional problems," Dr. Jacobson said in reviewing recent research. "It has been shown that carbohydrates such as starch and sucrose are not utilized efficiently by the young calf. The same also seems to be true for at least some vegetable proteins."

Two whole milk and five milk replacer systems for feeding veal calves were evaluated, Dr. Jacobson explained. Calves received an average of from 841 to 969 lb. whole milk or milk replacer during an 11-week period. He reported that in these tests calves fed whole milk gained more weight than those fed milk replacers, but the whole milk had a somewhat higher TDN value than the milk replacers and calculated values for TDN, above maintenance requirements, per pound of gain were quite similar for the various diets.

Based on weight gains, the tests showed that approximately 16 2 lb. of dry milk replacer containing 18% fat (lard oil) were required to replace 100 lb. whole milk (4.3% fat).

Live grades of the calves at 11 weeks, Dr. Jacobson reported, averaged "good" and differences among the various diets were slight. Diarrhea was lowest among calves fed whole milk and there were marked differences among the milk replacer groups.

To determine the value of 1 lb. dry milk replacer, results with the milk replacer fed groups were compared to the respective whole milk fed group. As an example, Dr. Jacobson explained that for group 3 the substitution value with whole milk at $3 per 100 lb. was obtained by determining the difference in group 1 between value of calf, $57.46, and feed cost, $32 13. This difference, $25.33, and the cost of hay and starter for group 3, $3.39, were subtracted from the value of the calf in group 3. The remainder, $21.78, was divided by pounds of dry milk replacer fed, 127.8 lb., to derive an estimated value for the milk replacer.

Values per pound of replacer to give the same net profit over feed cost as the comparable whole milk system were in the range of 15@17¢ for the five groups using a whole milk price of $3 cwt. and were 26@28¢ using $4.50 cwt. as the whole milk rate.

Dr. Jacobson said these substitution values represent the cost of milk replacer per pound which would permit a profit equal to that with whole milk feeding.

FEED ADDITIVES USAGE IN SUPPLEMENTS FOR FATTENING CATTLE—Dr. Wise Burroughs, professor of animal husbandry at Iowa State College, presented an evaluation of additives investigated in recent years for use in supplements fed to fattening beef cattle. He said his summary of college experiment station tests did not necessarily apply to supplements fed to cattle receiving rations composed primarily of roughage. He also said the summary "should not be regarded as final since it will require revision as new information becomes available."

Following are some of Dr. Burroughs' remarks regarding extensiveness of tests, average responses in gain and feed efficiency, and the outlook for benefits from the additives:

Antibiotics—"On the average, antibiotics improve gains and feed efficiency in fattening cattle, but the improvement is of a low order (3 to 4%), primarily due to failure to consistently bring substantial benefits . . . Advantages other than gain stimulation and feed savings, if real, require further study."

Stilbestrol—"It has been thoroughly tested and its usage has been adopted as a standard feeding practice . . . No other additive tested thus far has given as large or as consistent benefits in cattle supplements."

Live rumen cultures—"In general, college investigations have failed to demonstrate any benefits from these materials despite the large number of preparations which have appeared on the market."

Chemobiotics—"Results have been variable . . . They have more often given negative results than positive."

Tranquilizers — "Results reported thus far have not been consistently good. Some preliminary results have been encouraging, and it seems probable that one or more may be found to be helpful."

Tapazole—"Use of Tapazole is at present in the experimental stage of development. This material shows good promise . . . The greatest benefits have occurred with higher levels fed the last part of the fattening period."

Alcohol—"The use of alcohol in supplements has been tested by three stations the past year with essentially negative results. More work is needed before concluding that this material is not beneficial."

Enzymes—"More experimental results need to be obtained, but initial experiments appear quite promising in demonstrating benefits when high-corn rations containing 14% or less moisture are fed."

FEED INDUSTRY SERVICE—The place of the feed industry in "man's age-old quest for his daily food" was outlined by Dr. E. I. Robertson, chairman of the American Feed Manufacturers Assn. Nutrition Council and director of nutrition for John W. Eshelman & Sons, Lancaster, Pa.

"Grain beyond the needs for human food requires supplementation for most efficient utilization," he said. "Here the feed industry, spearheaded by the American Feed Manufacturers Assn., provides the know-how, the facilities and service to agriculture by making widespread distribution of research findings that come to the farm through manufactured feeds and supplements."

The feed industry is a market for the farmer's grains and a source of feed for his animals, Dr. Robertson said. He pointed out that a bag of feed represents production, storage, application of research, salvage of by-products and transportation.

Describing the place of the AFMA Nutrition Council, he called it "an industry service club embodying the enthusiasm for action of a civic group, the scientific awareness on nutrition and health of a medical association and a concern for industry ethics of a ministerial group."

The Nutrition Council, he said, provides the most practical mechanism for bridging the gap between what is known and what is used by encouraging immedate and widespread application of the latest findings of research.

How allied industry groups cooperate with the Nutrition Council is exemplified, Dr. Robertson said, by some of the activiites carried on by the Distillers Feed Research Council.

"On three occasions," he said, "this group submitted samples to the Nutrition Council to acquire the views of the feed industry as to the desirable physical properties distillers feed should have for best acceptance by feed manufacturers. Through these surveys the distilling industry learned what the feed manufacturer wants, and members of the distillers council have improved the physical properties of their feeds accordingly."

The distillers council in turn shows great cooperation in holding conferences to publicize the results of research sponsored by the distillers group at colleges and universities, he said.

"Promotion in research by all these groups through grants-in-aid to establish the nutritional value and acceptance of ingredients improves the efficiency of manufactured feed in producing more milk, meat and eggs for the human diet."

Oilseed Meal Futures Contracts Advance

MEMPHIS—Oilseed meal futures contracts generally were higher on the Memphis Board of Trade the past week.

A better tone to the cash oil meal market, reflecting improvement in mixed feed demand, brought an advance to deferred old crop positions.

Two thousand tons of unrestricted soybean oil meal were tendered to satisfy the open interest after expiration of the March contract on March 20.

Trade accounts were active in shifting hedges March 25 which saw the heaviest trading volume of the week.

Unrestricted soybean oil meal closed March 25 unchanged to $1.40 ton higher, Eastern Trunk Line soybean oil meal 50¢ lower to $1 higher, bulk solvent cottonseed oil meal 10¢ to $2 higher, and sacked old process cottonseed oil meal unchanged to $3.50 higher.

Turnover for the period amounted to 13,000 tons of unrestricted soybean oil meal, 1,100 tons of bulk solvent cottonseed oil meal, and 100 tons of sacked old process cottonseed oil meal.

$275,000 FIRE REPORTED

STORM LAKE, IOWA—Fire at the Farmers Elevator Inc. here recently did damage estimated at $275,000, according to the company manager, Ernest Hartwell. Three buildings were a total loss, also a bulk feed truck, a new corn roller and about 20,000 bu. corn.

MARKETS

(Continued from page 2)

$2 to $3 ton this week. Cottonseed hulls, up until last week, had been backing up at many of the mills, but good buying interest has relieved this situation and producing mills advanced their prices as much as $2.50 per ton. Demand for citrus pulp in the South continues good and processors are having no trouble moving their pulp at present asking prices.

Central States

During the week ending March 25 the situation seemed to be anything but uniform among firms in the industry. Some reported the over-all demand fairly good but rather inclined to be spotty—very good one day and disappointing in volume the next.

Low dealer inventory seems to be a general situation, and for that reason, replacement buying is the order of the day. Call for hog feeds is holding up well and demand for poultry feeds is mixed. The latter has been slow to start so far this spring. Response to the fairly general advance in constituent feeds, high protein and otherwise, has resulted in a moderately higher price trend.

South Central

Most feed manufacturers said that business this week was showing some improvement over the week before. Running time has picked up a little, mills generally are on a five day basis, almost a full day better than last week. Warm sunny weather with roads and feedlots drying out has started feeds moving again.

Most of the improvement is being made up of increased deliveries of the starter feeds. Chick starter demand is slowly building up and a limited amount of turkey feeds is moving. There is enough business coming in now from these feeds to be a factor in mill running time.

Hog feed sales are continuing at much the same rate as the past three months. The movement of cattle feeds as well as dairy feeds is on the downgrade. With pasture conditions expected to improve rapidly there is little chance for a pickup from this source in the near future.

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Mountain States

The consensus of formula feed dealers in this area this week is that the sales volume has been down somewhat from a week ago, although it is still up from the same time a year ago.

Feeds getting the most demand have been cattle feeds. Most of the feeds that have been purchased by the various dealers are for immediate sale rather than inventory buildup.

Ohio Valley

The spring weather, at long last, reluctantly arrived in the Ohio Valley, bringing a very moderate but definite improvement in sales of all types of formula feeds. While the improvement was not sufficient to require any extension of working hours in area manufacturing plants, it did generate a firm conviction that "we appear to have turned a corner and there will be a steady improvement in tonnages through the upcoming spring season," one manufacturer phrased it.

With temperatures this midweek reaching the low 70's for the first time since last fall, all types of farm activities, which had been deferred because of the prolonged cold weather, are getting underway, including an upturn in hatching activities.

During this pre-Easter week, receipts of cattle and hogs at area stockyards were, as expected, somewhat below normal, while offerings of sheep were better than at any time during the winter season, because of the traditional Easter demand for this meat.

Although poultry and eggs continued in short supply, prices remained unchanged or eased off slightly, with supplies expected to be sufficient to meet current demands.

Pacific Northwest

Steady to weak quotations ruled last week's feed ingredient market trading when a majority of items changed hands at unchanged values at Seattle and Portland.

Price changes were limited to wheat millfeeds and some feed grains during the moderately active trading period.

Wheat millfeed quotes declined 50¢ ton while whole corn values were off $2 ton as the reflection of a freight rate cut due April 1. Whole barley prices managed to hold unchanged while oats sold unchanged to 50¢ lower with milo listings unchanged to 25¢ ton below the previous week's close.

Trade sources indicated that the feedstuff demand was largely for immediate needs and that offerings of all items appeared adequate.

The volume movement of formula dairy and poultry feeds was maintained during the period.

Pacific Northwest alfalfa hay trading continued on the slow side and prices held mostly unchanged at Portland and Seattle where top quality alfalfa from barn storage sold to $35 ton with good quality comparable to U.S. No. 2 green selling at mostly $32 to $33 ton baled, delivered.

Livestock producers in Oregon's Harney, Lake, Grant and Malheur counties reported during the week they are concerned about summer grazing prospects because of the lack of sufficient winter moisture and snow cover.

Portland and Seattle egg prices to retailers were 1¢ doz. lower during the week in the face of unchanged quotes to producers.

North Portland livestock market fed cattle prices were weak to 25¢ lower with choice steers topping the market at $28.50 cwt.

for affecting the future of pork pro- | however, "since the cost sometimes | thus far has given as large or as con- | for the human diet."

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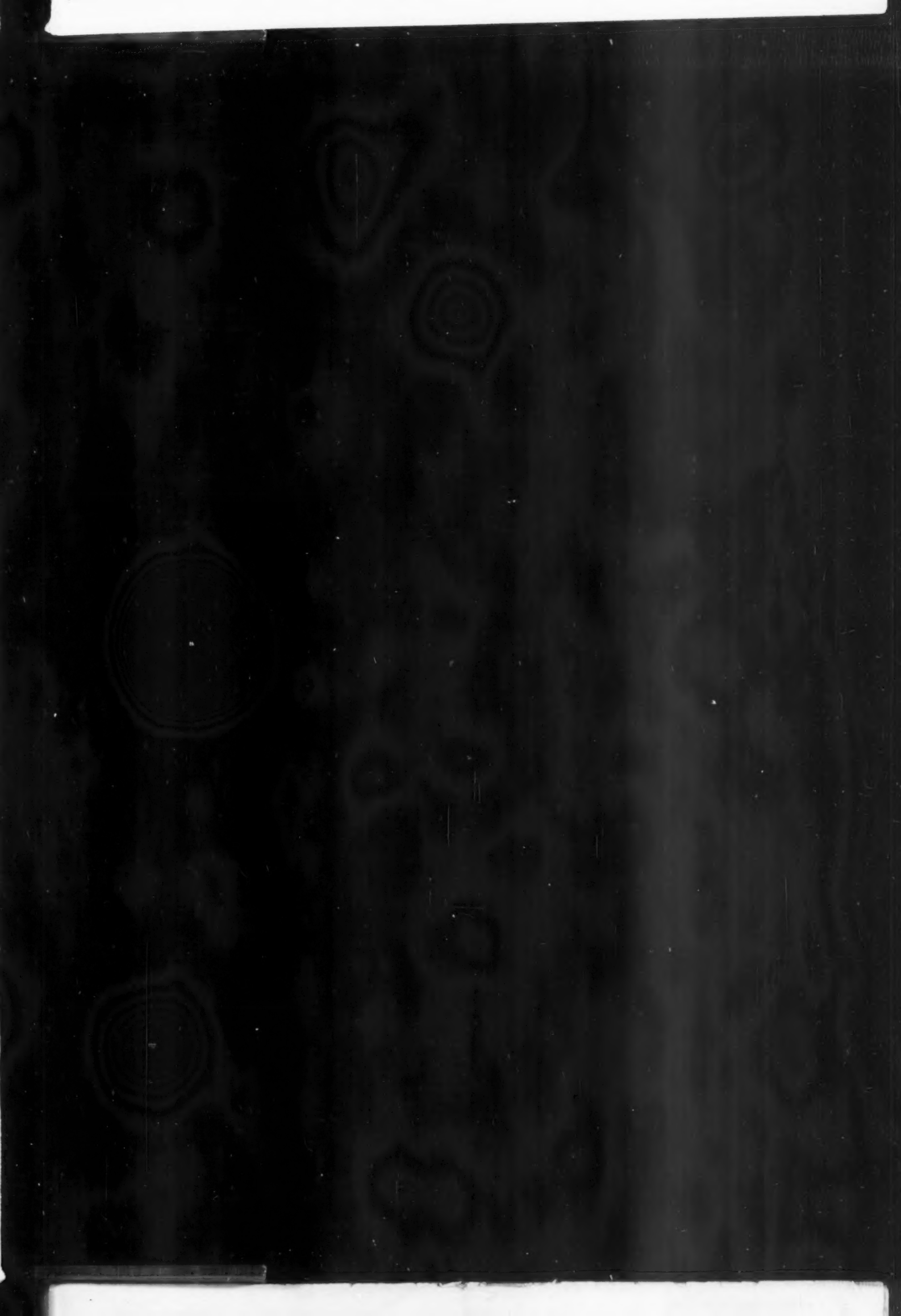
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